AUTHOR INDEX FOR VOLUME 64, 1987

A

Acker, D. C., 660
Alenda, R., 366
Alfonso, N. F., 935
Allee, G. L., 1117
Allen, C. E., 615, 623
Allen, D. M., 165
Allrich, R. D., 1110
Althen, T. G., 507
Amann, R. P., 254, 517
Andersen, B. B., 1292
Anderson, B. F., 1821
Anderson, G. B., 1696
Anderson, K. L., 1215
Ansotegui, R. P., 1601
Archibong, A. E., 474
Argenzio, R. A., 1241
Ashley, K. B., 797
Austic, R. E., 457, 1079
Avery, T. B., 897, 1215, 1227
Axe, D. E., 897
Azzam, S. M., 348, 357

B

Bagley, C P., 678, 687
Baile, C. A., 915
Bailey, C. M., 373
Baker, D. H., 1664
Baker, J. F., 1612
Baldwin, R. L., 283
Barnes, F., 642
Barron, D. H., 1262
Bartholomew, M. L., 201
Bartle, S. J., 1024
Bartol, F. F., 1262
Barton, B. A., 1249
Becker, S. R., 1858
Beers, K. W., 1759, 1769
Bennett, W. A., 507
Benson, C. R., 1630
Benyshek, L. L., 65, 77, 728, 977, 1285
Berardinelli, J. G., 1601
Bereskin, B., 1619
Bergen, W. G., 907
Berger, L. L., 842
Berggren-Thomas, P. L., 1302
Berndtson, W. E., 241
Bertrand, J. K., 65, 77, 728, 1285
Bhide, S., 23
Bidner, T. D., 177
Biggers, B. G., 1512
Bilak, S. R., 601
Blair, R., 1560
Blatchford, D. R., 533
Blenk, T. J., 1275
Boggs, D. L., 907
Boling, J. A., 855, 1170, 1235
Bolsen, K. K., 897
Bolt, D. J., 216, 816
BonDurant, R. H., 1696
Borg, B. S., 1070
Boyd, G. W., 1703
Boyd, R. D., 457, 1079
Boyer, J. E., 1215
Bragg, D.S.A., 695
Brandt, K. E., 1110, 1476
Brandt, R. T., 1227
Branine, M. E., 1178
Bremner, E. M., 601
Brendemuhl, J. H., 1060
Brennan, R. W., 23
Britt, J. H., 782
Britton, R. A., 1821
Broquist, H. P., 1241
Brown, W. F., 271, 1205
Bruce, L. B., 1189
Brumm, M. C., 1606
Bryant, F. C., 868
Buchanan, D. S., 83, 99, 1512
Bunting, L. D., 855, 1170, 1235
Buonomo, F., 623
Burfening, P. J., 955
Burrows, G. E., 1682
Butler, J. E., 1458

C

Cable, J. K., Jr., 171
Calkins, C. R., 343, 1448
Calvert, C. C., 283
Carpenter, C. E., 1574
Carpenter, J. C., Jr., 678, 687
Carroll, L. H., 578
Carruthers, T. D., 254
Cartwright, T. C., 1612
Cassens, R. G., 1574
Chang, C.-F., 1090
Chase, C. C., Jr., 578
Chenault, J. R., 540
Chestnut, A. B., 842
Choi, Y. J., 1751
Chou, K., 1467
Christian, L. L., 407, 414
Chung, C. S., 433
Clanton, D. C., 343, 1743
Clark, D. H., 1743
Clark, J. R., 36
Clay, C. M., 517
Clemens, E. T., 1606
Cline, J. H., 669
Clutter, A. C., 805, 1313
Cobb, A. R., 1144
Cole, N. A., 1813
Comerford, J. W., 65
Connelly, J., 827
Convey, E. M., 226, 1498
Coombs, D. F., 177
Copelin, J. P., 1506
Coulter, G. H., 254
Cox, N. M., 507
Craddock, B. F., 868
Crickman, J. G., 1144
Croom, W. J., Jr., 1241
Cross, H. R., 1434
Crouse, J. D., 1428, 1434, 1448
Croy, L. I., 1682
Cundiff, L. V., 50, 385, 706, 963
Cunningham, B. E., 1591

D

Dailey, R. A., 1491
Daley, D. R., 373
Dally, M. R., 1378
Danilson, D. A., 1842, 1852
Danler, R. J., 165
Dantzer, R., 1371
Davidge, S. T., 126
Davis, D. L., 1117
Davis, G. W., 171, 1024
Davis, M. E., 15, 50
Dawson, K. A., 1170, 1235
Day, M. L., 805
Dayton, W. R., 615, 623
de Alba M, J., 1717
Dearborn, D. D., 706, 963
de Avila, D., 1858
Dehority, B. A., 669
DeNise, R.S.K., 969
Deswysen, A. G., 827, 835
Diekman, M. A., 1110, 1476, 1484
Doornenbal, H., 489
Duncan, P. A., 1743
Durst, H. I., 467
Dziuk, P. J., 1144

E

Easter, R. A., 191
Echternkamp, S. E., 226
Edmonds, M. S., 1664
Eisemann, J. H., 420
Eisen, E. J., 133
Ekeren, P. A., 1428
Eller, A. L., Jr., 1349
Ellis, W. C., 827, 835
Elzo, M. A., 983, 992
England, D. C., 474
Epplin, F., 23
Erdman R. A., 565
Erickson, G. M., 1751
Erickson, P. S., 1249
Ernst, F. C., Jr., 1275
Espana, F., 1134
Estell, R. E., 1178
Etherton, T. D., 433, 1019
Etienne, M., 774
Evock, C. M., 433
Ewing, D. L., 1194
Eyestone, W., 642

F

Fahey, G. C., Jr., 842

AUTHOR INDEX FOR VOLUME 64, 1987

A

Acker, D. C., 660
Alenda, R., 366
Alfonso, N. F., 935
Allee, G. L., 1117
Allen, C. E., 615, 623
Allen, D. M., 165
Allrich, R. D., 1110
Althen, T. G., 507
Amann, R. P., 254, 517
Andersen, B. B., 1292
Anderson, B. F., 1821
Anderson, G. B., 1696
Anderson, K. L., 1215
Ansotegui, R. P., 1601
Archibong, A. E., 474
Argenzio, R. A., 1241
Ashley, K. B., 797
Austic, R. E., 457, 1079
Avery, T. B., 897, 1215, 1227
Axe, D. E., 897
Azzam, S. M., 348, 357

B

Bagley, C P., 678, 687
Baile, C. A., 915
Bailey, C. M., 373
Baker, D. H., 1664
Baker, J. F., 1612
Baldwin, R. L., 283
Barnes, F., 642
Barron, D. H., 1262
Bartholomew, M. L., 201
Bartle, S. J., 1024
Bartol, F. F., 1262
Barton, B. A., 1249
Becker, S. R., 1858
Beers, K. W., 1759, 1769
Bennett, W. A., 507
Benson, C. R., 1630
Benyshek, L. L., 65, 77, 728, 977, 1285
Berardinelli, J. G., 1601
Bereskin, B., 1619
Bergen, W. G., 907
Berger, L. L., 842
Berggren-Thomas, P. L., 1302
Berndtson, W. E., 241
Bertrand, J. K., 65, 77, 728, 1285
Bhide, S., 23
Bidner, T. D., 177
Biggers, B. G., 1512
Bilak, S. R., 601
Blair, R., 1560
Blatchford, D. R., 533
Blenk, T. J., 1275
Boggs, D. L., 907
Boling, J. A., 855, 1170, 1235
Bolsen, K. K., 897
Bolt, D. J., 216, 816
BonDurant, R. H., 1696
Borg, B. S., 1070
Boyd, G. W., 1703
Boyd, R. D., 457, 1079
Boyer, J. E., 1215
Bragg, D.S.A., 695
Brandt, K. E., 1110, 1476
Brandt, R. T., 1227
Branine, M. E., 1178
Bremner, E. M., 601
Brendemuhl, J. H., 1060
Brennan, R. W., 23
Britt, J. H., 782
Britton, R. A., 1821
Broquist, H. P., 1241
Brown, W. F., 271, 1205
Bruce, L. B., 1189
Brumm, M. C., 1606
Bryant, F. C., 868
Buchanan, D. S., 83, 99, 1512
Bunting, L. D., 855, 1170, 1235
Buonomo, F., 623
Burfening, P. J., 955
Burrows, G. E., 1682
Butler, J. E., 1458

C

Cable, J. K., Jr., 171
Calkins, C. R., 343, 1448
Calvert, C. C., 283
Carpenter, C. E., 1574
Carpenter, J. C., Jr., 678, 687
Carroll, L. H., 578
Carruthers, T. D., 254
Cartwright, T. C., 1612
Cassens, R. G., 1574
Chang, C.-F., 1090
Chase, C. C., Jr., 578
Chenault, J. R., 540
Chestnut, A. B., 842
Choi, Y. J., 1751
Chou, K., 1467
Christian, L. L., 407, 414
Chung, C. S., 433
Clanton, D. C., 343, 1743
Clark, D. H., 1743
Clark, J. R., 36
Clay, C. M., 517
Clemens, E. T., 1606
Cline, J. H., 669
Clutter, A. C., 805, 1313
Cobb, A. R., 1144
Cole, N. A., 1813
Comerford, J. W., 65
Connelly, J., 827
Convey, E. M., 226, 1498
Coombs, D. F., 177
Copelin, J. P., 1506
Coulter, G. H., 254
Cox, N. M., 507
Craddock, B. F., 868
Crickman, J. G., 1144
Croom, W. J., Jr., 1241
Cross, H. R., 1434
Crouse, J. D., 1428, 1434, 1448
Croy, L. I., 1682
Cundiff, L. V., 50, 385, 706, 963
Cunningham, B. E., 1591

D

Dailey, R. A., 1491
Daley, D. R., 373
Dally, M. R., 1378
Danilson, D. A., 1842, 1852
Danler, R. J., 165
Dantzer, R., 1371
Davidge, S. T., 126
Davis, D. L., 1117
Davis, G. W., 171, 1024
Davis, M. E., 15, 50
Dawson, K. A., 1170, 1235
Day, M. L., 805
Dayton, W. R., 615, 623
de Alba M, J., 1717
Dearborn, D. D., 706, 963
de Avila, D., 1858
Dehority, B. A., 669
DeNise, R.S.K., 969
Deswysen, A. G., 827, 835
Diekman, M. A., 1110, 1476, 1484
Doornenbal, H., 489
Duncan, P. A., 1743
Durst, H. I., 467
Dziuk, P. J., 1144

E

Easter, R. A., 191
Echternkamp, S. E., 226
Edmonds, M. S., 1664
Eisemann, J. H., 420
Eisen, E. J., 133
Ekeren, P. A., 1428
Eller, A. L., Jr., 1349
Ellis, W. C., 827, 835
Elzo, M. A., 983, 992
England, D. C., 474
Epplin, F., 23
Erdman R. A., 565
Erickson, G. M., 1751
Erickson, P. S., 1249
Ernst, F. C., Jr., 1275
Espana, F., 1134
Estell, R. E., 1178
Etherton, T. D., 433, 1019
Etienne, M., 774
Evock, C. M., 433
Ewing, D. L., 1194
Eyestone, W., 642

F

Fahey, G. C., Jr., 842

Faltys, G. L., 1498
Farfan, R. D., 868
Farmer, C., 1086
Faulkner, A., 533, 1395
Feazel, J. I., 678, 687
Field, R. A., 1419, 1648
Filho, A. L., 165
Finley, E., 1395
Fiorello-Stocks, N. A., 526
First, N. L., 642
Fiszlewicz, M., 448
Fogwell, R. L., 1498
Fredeen, H. T., 714
Froetschel, M. A., 1241
Fukui, Y., 935

G

Galitzer, S. J., 1215
Gallivan, C., 43
Galyean, M. L., 1178
Gamble, H. R., 328
Garcia, J. A., 1533, 1541
Garcia-Winder, M., 1099
Garrett, J. E., 1801
Garverick, H. A., 1506, 1710
Garza, F., Jr., 247, 797
Gates, R. N., 1821
Gearheart, W., 50
Geisert, R. D., 1512
Gill, J. L., 594
Gilligan, B., 642
Giusi, A., 448
Goetsch, A. L., 1759, 1769
Goll, S. J., 165
Gonzalez, A., 1717
Goode, L., 880
Goodrich, R. D., 1801
Gosey, J. A., 1638
Grant, A. L., 552
Graser, H.-U., 1362
Greaser, M. L., 1574
Gregory, K. E., 706, 963
Grieger, D. M., 1110
Grings, E. E., 872, 945
Grundy, S. M., 1441
Guthrie, H. D., 816
Gwazdauskas, F. C., 8

H

Hagen, D. R., 1086
Hagler, W. M., Jr., 1241
Hale, W. H., 1541
Hamernik, D. L., 1858
Hammitt, D. G., 497
Hammock, B. D., 210
Hammond, A. C., 420
Handwerger, S., 1696
Hanford, K., 955
Hansen, T. R., 1280
Hargrove, D. D., 1332
Harmon, D. L., 897, 1227
Harpster, H. W., 1002
Hart, S. P., 1779, 1790
Harvey, W. R., 15, 312, 1340
Hauser, E. R., 50
Hausman, G. J., 237, 735, 745, 1255
Hawkins, D. R., 907
Hawkins, R. R., 171
Heady, E. O., 23
Heaney, D. P., 1302
Hedberg, R. R., 1275
Helmer, S. D., 782
Hembry, F. G., 32, 678, 687
Henderson, A. J., 533
Hentges, E. J., 1255
Herbein, J. H., 1842, 1852
Hill, G. M., 1
Hill, H. T., 407, 414
Hillers, J. K., 126
Hino, T., 261
Hixon, A. L., 977
Hoefler, W. C., 1178
Hoffman, M. P., 23
Hohenboken, W. D., 43, 385, 1302
Horn, F. P., 1790
Horn, G. W., 1682
Hough, J. D., 77
House, A. M., 1467
Houtz, S. K., 1086
Howard, M. D., 1170
Hu, C. Y., 148, 1031, 1384
Hudgens, R. E., 1484
Hudson, J. R., Jr., 607
Huffman, D. C., 678, 687
Humes, P. E., 32
Hunt, M. C., 165
Huntington, G. B., 420

I

Igboeli, G., 241
Imai, K., 935
Imakawa, K., 805
Inskeep, E. K., 1099, 1491
Irvin, K. M., 15, 1340
Isler, G. A., 1340
Itulya, S. B., 1630
Izard, R. S., 1051

J

Jenkins, T. C., 1526
Jenkins, W. L., 827
Jesse, G. W., 1606
Johnson, D. E., 1194
Johnson, M. H., 65
Johnson, R. K., 83, 99, 1044
Johnson, T., 1292
Johnston, L. J., 36
Jones, A. L., 1759, 1769
Jones, D. B., 1205
Jones, D. D., 1476
Jones, L. S., 247
Jones, R. W., 191
Jung, G. A., 1735

K

Kaattari, S., 1302
Kavanaugh, J. F., 1002
Keech, C. A., 1498
Keeton, R. D., 1682
Keister, D. M., 497
Kelly, D. T., 1476
Kensinger, R. S., 1002
Kercher, C. J., 1419
Kezhou, W., 1467
Kiesling, D. O., 231
Killefer, J., 923
Killian, D. B., 231
Kinder, J. E., 805
Kineman, R. D., 237, 526
Kiracofe, G. H., 816
Kiser, T. E., 1703
Kittock, R. J., 805
Kitts, D. D., 1696
Klobasa, F., 1458
Klopfenstein, T. J., 1821
Knabe, D. A., 1051, 1441, 1655
Knight, C. H., 533
Kobayashi, T., 191
Koch, B. A., 660
Koch, D. W., 1275
Koch, R. M., 706, 963
Kock, S. W., 1024
Koohmaraie, M., 633
Koonce, K. L., 678, 687
Kornegay, E. T., 8
Korver, S., 1292
Kotts, C. E., 615, 623
Kozub, G. C., 254
Kraeling, R. R., 237, 526, 1690
Krause, G. F., 1710
Kress, D. D., 955
Krysl, L. J., 1178
Kyle, J., 1682

L

Larson, G. H., 1491
La Rue, D. C., 1051
Lauderdale, J. W., 540
Lawson, J. E., 714
Leakakos, T., 1484
Lee, K. H., 1110
Lee, R. W., 897, 1227
Lennon, M., 666
Leonard, N. R., 1275
Lewis, A. J., 1060
Lewis, G. S., 216
Lewis, P. E., 1099, 1491
Liacos, J. A., 1241
Libal, G. W., 1070
Lin, F. D., 1655
Lindemann, M. D., 8
Liu, T-T. Y., 201
Loerch, S. C., 669
Long, G. G., 1476
Looney, M. C., 283
Lowrey, R. S., 1703
Luce, W. G., 1044
Lunstra, D. D., 963

M

Mabry, J. W., 765, 977, 1285
MacKown, C. T., 855
MacNeil, M. D., 752
Maccecchini, M. L., 1002
Magee, W. T., 1591
Malayer, J. R., 1476
Males, J. R., 872, 945
Mann, D. L., 880
Manns, J. G., 479, 1717
Marks, M. A., 977
Marlowe, T. J., 1349
Marple, D. N., 1690
Marshall, T. T., 1332
Martin, F., 615
Martin, N. L., 1378
Martin, P. A., 497
Martin, R. J., 735, 745
Martin, T. G., 366
Marx, G. D., 1751
Mattson, D. E., 385
Maxwell, C. V., 1044
Mayes, H. F., 1606
McAllister, J. F., 540
McCampbell, H. C., 182
McCarter, M. N., Jr., 1285
McCormick, M. E., 586
McCuskey, A., 373
McFarland, S. Y., 1090, 1858
McGilliard, A. D., 303
McInerney, M. J., 1601
McLaren, D. G., 83, 99
McLaughlin, C. L., 915
McMillin, K. W., 177
McMunn, L. M., 1002
McNeill, D. R., 247, 797
McNew, R. W., 1682
McWhir, J., 1323
Meacham, N. S., 701
Mears, G. J., 489
Meeker, D. L., 394, 407, 414
Meiske, J. C., 1801
Meldrum, J. B., 8
Mersmann, H. J., 148, 752, 1031, 1384
Mertens, D. R., 1548
Meunier-Salaun, M. C., 1371
Miller, H. W., 507
Miller, K. F., 816
Milliken, G. A., 897
Mitchell, J. R., 1275
Moody, D. E., 210
Moore, J. E., 271
Moorhead, P. D., 201, 467
Moriarity, D. M., 607
Morrill, J. L., 1215
Moss, G. E., 1484
Muggli, N. E., 385
Muntifering, R. B., 855, 1170
Murdoch, W. J., 648
Murphy, B. D., 1717
Murray, N. L., 489

N

Naasz, P. E., 1127
Nadarajah, K., 1349
Nagaraja, T. G., 1215, 1227
Naylor, C. H., 1813
Neel, S. W., 765
Nett, T. M., 790
Newland, H. W., 15
Newman, J. A., 489, 714
Newton, G. L., 1
Nielsen, M. K., 348, 357, 1313, 1638
Noblet, J., 774
Nocek, J. E., 552
Nolte, M. E., 669
Nordby, D. J., 1419
Northey, D., 642
Notter, D. R., 701, 1349
Novakofski, J. E., 1031, 1384

O

Ojala, M., 109, 117
Olson, T. A., 1332
Ono, H., 935
Orr, D. E., Jr., 36
Oscar, T. P., 887
Oxley, J. W., 1568

P

Park, C. S., 1751
Parker C. F., 669
Parrish, F. C., 23
Patience, J. F., 457, 1079
Peo, E. R., Jr., 1060
Peterson, G. A., 15
Peterson, L. A., 1280
Phillips, J. D., 1205
Pickett, B. W., 241, 517
Piper, E. L., 1759, 1769
Pollak, E. J., 983, 992
Pollmann, D. S., 1117
Pollock, H., 1395
Pond, K. R., 827, 835, 880
Pond, W. G., 752, 1384, 1672
Pontif, J. E., 177
Poore, M., 295
Prasad, V.S.S., 1648
Prather, R., 642
Preston, R. L., 1024
Price, E. O., 1378

Q

Quaas, R. L., 109, 983, 992

R

Raab, A., 1371
Rahe, C. H., 1690
Rahmanian, M. S., 648
Rahnefeld, G. W., 714
Rahnema, S. H., 1533, 1541
Rampacek, G. B., 237, 526, 1690
Ramsay, T. G., 735, 745
Ramsey, C. B., 171
Randel, R. D., 578, 1280
Ranney, T. S., 1725, 1735
Ray, D. E., 969, 1630
Reagan, J. O., 765
Rebhun, J. F., 433
Reed, R. B., 1010
Reeves, J. J., 1090, 1858
Reid, R. L., 1725, 1735
Reiner, R. J., 868
Rerat, A., 448
Reynolds, P. J., 420
Richter, H. E., 607
Riley, M. L., 1419, 1648
Ritchie, H. D., 1591
Roberson, M. S., 1601
Robinson, J. L., 695
Robl, J. M., 642
Robson, R. M., 601
Rojas-Bourrillon, A., 303
Rothschild, M. F., 394, 407, 414
Roubicek, C. B., 1630
Rule, D. C., 1384
Russek-Cohen, E., 565
Russell, J. B., 261, 1519
Russell, J. R., 303
Russell, R. W., 1010
Rutledge, J. J., 50
Rutter, L. M., 479

S

Sacco, R. E., 1612
Sartin, J. L., 1690
Sato, H., 191
Saxton, A. M., 32
Schanbacher, B. D., 1428, 1434
Schanbacher, F. L., 467
Schelling, G. T., 1441
Schricker, B. R., 1002
Schurig, G., 8
Seerley, R. W., 182
Seideman, S. C., 752, 1434, 1448
Senger, P. L., 126
Shanks, R. D., 695
Shih, J.C.H., 887
Short, R. E., 1498
Shrestha, J.N.B., 1302
Shull, L. R., 210
Sillence, M. N., 1019
Silvia, P. J., 790
Skyer, D. M., 1710
Slyter, A. L., 1127
Smith, M. F., 1506
Smith, S. B., 1384, 1428, 1434, 1441
Smith, S. P., 1362
Smith, V. G. 540
Sosnicki, A., 1412
Southern, L. L., 177
Spears, J. W., 887
Spicer, L. J., 226
Squires, E. L., 517, 790
Stabenfeldt, G. H., 1696
Steele, N. C., 433

Stern, M. D., 1801
Stevenson, J. S., 1117
Stewart, A.N.V., 231
St. George, R. L., 247
St. John, L. C., 1428, 1441
Stokes, S. R., 1759, 1769
Stormshak, F., 474
Stout, W. L., 1735
Stover, R. K., 1002
Stowe, H. D., 1467
St. Pierre, N. R., 312
Strohbehn, R. S., 497
Stroup, W. W., 1638, 1821
Stuart, M. J., 507
Sutton, A. L., 1476
Swatland, H. J., 444, 1038
Swingle, R. S., 1533
Switalski, G., 565

T

Tanksley, T. D., Jr., 1051, 1655
Taylor, E., 1395
Templeton, W. C., Jr., 1725
Tess, M. W., 1292
Thayne, W. V., 1725
Theurer, C. B., 295, 1533, 1541
Thiel, T., 1467
Thomas, D. L., 1144
Thomas, E. E., 1835
Thomas, G. B., 1255
Thomford, P. J., 1144
Thompson, D. L., Jr., 247, 797
Thompson, L. D., 1441
Thraen, C. S., 312
Tibbetts, G. W., 182
Tier, B., 1362
Tilton, J. E., 1134
Toha, M., 1235
Tong, A.K.W., 489
Townsend, E. C., 1099, 1491
Trenkle, A., 303, 426
Tribble, L. F., 36
Tucker, H. A., 226
Turnbull, G. W., 1835
Turner, T. B., 15
Tyrrell, H. F., 420

U

Undersander, D. J., 1813
Utley, P. R., 1

V

Vandersall, J. H., 565
Vantrimponte, M. N., 1371
Van Vleck, L. D., 109
Vaugelade, P., 448
Vavra, M., 43
Verde, L. S., 426
Vernon, R. G., 533, 1395

W

Wahlstrom, R. C., 1070
Wallach, S.J.R., 1378
Waller, S. S., 1821
Walton, P. E., 433
Wanderley, R. C., 295
Warner, C. M., 394, 407, 414
Watkins, K. L., 177
Weaver, W. M., 977
Webb, K. E., Jr., 586, 1842, 1852
Weigl, R., 1134
Weiss, G. M., 714
Werhahn, E., 1458
Wetteman, R. P., 1512
Wheeler, T. L., 1024
White, M. E., 615, 623
White, T. W., 32
Whitman, R. W., 1601
Wiebold, J. L., 126
Wiest, J. J., 247, 797
Wiggins, J. P., 433
Wilde, C. J., 533
Wiley, A. A., 1262
Willett, L. B., 201, 467
Wilson, R. L., 526
Wilton, J. W., 1323
Wise, T., 1153
Wisniewski, J. A., 210
Worrell, M. A., 343
Wulff, F. P., 231

Y

Yen, H. F., 1340
Yen, J. T., 923, 1672
Young, C. R., 1441
Young, M. C., 1533, 1541
Young, R. B., 607
Youngquist, R. S., 1506, 1710

Z

Zalesky, D. D., 805
Ziecik, A., 1134
Zinn, G. M., 1606

SUBJECT INDEX FOR VOLUME 64, 1987

A

ATPase
- Accumulation of newly synthesized myosin heavy chain during thyroxin-induced myofiber type transition, 1574

Abortion
- Effect of prostaglandin $F_{2\alpha}$ administration on early pregnancy in ewes, 1127

Absorption
- A method for chronically quantifying net absorption of nutrients and gut metabolites into hepatic portal vein in conscious swine, 923
- Absorption, plasma flux and oxidation of L-leucine in heifers at two levels of intake, 420
- Effects of potassium on macromineral absorption in sheep fed wheat straw-based diets, 872

Acid Base Equilibrium
- Effect of dietary electrolyte balance on growth and acid-base status in swine, 457

Adipose Tissues
- Central endocrine regulation of the development of hormone responses in porcine fetal adipose tissue, 745
- Differentiation of adipose tissue and muscle in hypophysectomized pig fetuses, 1255
- Enzymes of glucose and fatty acid metabolism of liver, kidney, skeletal muscle, adipose tissue and mammary gland of lactating and non-lactating sheep, 1395
- Factors affecting measurements of glucose metabolism and lipolytic rates in porcine adipose tissue slices in vitro, 148
- Fatty acid profiles and sensory and carcass traits of tissues from steers and swine fed an elevated monounsaturated fat diet, 1441
- Growth and adipose tissue metabolism in young pigs fed cimaterol with adequate or low dietary protein, 1384
- Hormonal control of porcine adipose tissue fatty acid release and cyclic AMP concentration, 1031
- Pre-adipocyte proliferation and differentiation in response to hormone supplementation of decapitated fetal pig sera, 735

Adrenalectomy
- Effects of adrenalectomy and glucocorticoids on puberty in gilts reared in confinement, 231

Age
- Effect of region of the United States and age of dam on birth weight and 205-d weight of Simmental calves, 955
- Effects of age of dam on weight traits in the Simmental population, 992
- Estimates of genetic parameters for sexual and compositional maturity in gilts, 977

Alpacas
- Forage intake of alpacas grazing Andean rangeland in Peru, 868

Amino Acids
- Absorption, plasma flux and oxidation of L-leucine in heifers at two levels of intake, 420
- Amino acid excesses for young pigs: Effects of excess methionine, tryptophan, threonine or leucine, 1664
- Apparent digestibility of amino acids, gross energy and starch in corn, sorghum, wheat, barley, oat groats and wheat middlings for growing pigs, 1655
- Effect of dietary electrolyte balance on growth and acid-base status in swine, 457
- Serum proteins as carriers of amino acids to and from the hindlimbs of fed and fasted calves, 586
- Transport and hindlimb exchange of peptide and serum protein amino acids in calves fed soy- or urea-based purified diets, 1852
- Transport and hindlimb exchange of plasma and blood-cell amino acids in calves fed soy- or urea-based purified diets, 1842
- Tryptophan and threonine requirements of young pigs and their effects on serum calcium, phosphorus and zinc concentrations, 1070
- Tryptophan availability of some feedstuffs determined by pig growth assay, 191

Ammonia
- Influence of manure gases on puberty in gilts, 1476
- Relative contributions of ruminal bacteria and protozoa to the degradation of protein in vitro, 261

Ammoniated Feeds
- Ammoniation and magnesium supplementation of wheat straw diets—Effects on performance and mineral status of beef cows, 945
- Ammoniation or cane molasses supplementation of low quality forages, 1205
- Effects of ammoniation of tall fescue on phenolic composition, feed intake, site and extent of nutrient digestion and ruminal dilution rates of steers, 842
- Effects of potassium on macromineral absorption in sheep fed wheat straw-based diets, 872
- Ensiling characteristics and digestibility of combinations of turnips and wheat straw, 1790
- Influence of thermo-ammoniation on quality of warm-season grass hay for steers, 1821

Androgens
- Endocrine and body growth traits in heifers exposed to testosterone-propionate during early fetal development, 1858
- Growth and carcass traits of heifers as affected by hormonal treatment, 1434
- Hormonal patterns of boars exposed to natural or supplemental lighting during pubertal development, 1110
- Passive immunization of cyclic mares against androgen: Gonadotropin and progesterone concentrations and estrous characteristics, 797

Angus
- Heterosis and additive breed effects on feedlot and carcass traits from crossing Angus and Brown Swiss, 1332

Antibodies
- Inheritance and interaction of immune traits in beef calves, 385
- Monoclonal antibody technology in the development of vaccines for livestock parasites, 328

Appetite Stimulants
- Mechanisms controlling feed intake in ruminants: A review, 915

Aujeszky Virus
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: I. Heterosis, general combining ability and relationship to growth and backfat, 407
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: II. Comparison of additive direct and maternal genetic effects, 414

B

Behavior
Effect of floor area restriction upon performance, behavior and physiology of growing-finishing pigs, 1371
Effects of monensin on voluntary intake, eating and ruminating behavior and ruminal motility in heifers fed corn silage, 827
Fostering lambs by odor transfer: The add-on experiment, 1378
Influence of varying levels of blood progesterone upon estrous behavior in cattle, 126
Influences of season and artificial photoperiod on stallions: Testicular size, seminal characteristics and sexual behavior, 517
Interrelationships among voluntary intake, eating and ruminating behavior and ruminal motility of heifers fed corn silage, 835
Mechanisms controlling feed intake in ruminants: A review, 915
Benzodiazepine
Mechanisms controlling feed intake in ruminants: A review, 915
Bioassays
A statistically standardized muscle cell culture bioassay measuring the effect of swine serum on muscle cell proliferation, 615
Biostimulators
Influence of biostimulation by mature bulls on occurrence of puberty in beef heifers, 1601
Blood
A method for chronically quantifying net absorption of nutrients and gut metabolites into hepatic portal vein in conscious swine, 923
A statistically standardized muscle cell culture bioassay measuring the effect of swine serum on muscle cell proliferation, 615
Blood and serum components and organ weights in steers, bulls and zeranol-implanted bulls, 489
Effect of protein and energy intake by primiparous sows during lactation on sow and litter performance and sow serum thyroxine and urea concentrations, 1060
Influence of meal frequency on postprandial variations in the production and absorption of volatile fatty acids in the digestive tract of conscious pigs, 448
Transport and hindlimb exchange of plasma and blood-cell amino acids in calves fed soy- or urea-based purified diets, 1842
Tryptophan and threonine requirements of young pigs and their effects on serum calcium, phosphorus and zinc concentrations, 1070
Body Composition
A flow-limited simulation model of isotopic water dilution, 1010
Effect of body condition and floor material on sow performance, 36
Effects of selection for rapid postweaning gain on maturing patterns of fat depots in mice, 133
Estimates of genetic parameters for sexual and compositional maturity in gilts, 977
Genetic and phenotypic parameters for pig growth and body composition estimated by intraclass correlation and parent-offspring regression, 1619
Metabolic utilization of energy and maintenance requirements in lactating sows, 774
Size-scaled lean and fat growth patterns of serially slaughtered beef animals, 1292
Validation of urea dilution to estimate in vivo body composition in cattle, 1024
Body Measurements
Compensatory growth in finishing pigs after feed restriction, 752
Deficiency of uridine monophosphate synthase in Holstein cattle: Inheritance and body measurements, 695
Growth and adipose tissue metabolism in young pigs fed cimaterol with adequate or low dietary protein, 1384
Body Water
Validation of urea dilution to estimate in vivo body composition in cattle, 1024
Bones
Characteristics of lean from culled breeding ewes, 1648
Brahman
Fragmentation index as an early postmortem predictor of beef tenderness, 171
Brassica
Lamb performance on extended-season grazing of tyfon, 1275
Breeds
Breed and heterosis effects on wool and lamb production of rotationally crossed ewes, 43
Composition and yield of milk from beef-type Bos taurus and Bos indicus × Bos taurus dams, 373
Factors affecting reproductive performance in swine, 1340
Growth performance for four breeds of swine: Crossbred females and purebred and crossbred boars, 99
Heterosis and additive breed effects on feedlot and carcass traits from crossing Angus and Brown Swiss, 1332
Heterosis and breed maternal and transmitted effects in beef cattle. V. Weight, height, and condition score of females, 706
Heterosis, breed maternal and breed direct effects in Red Poll and Hereford cattle, 963
Individual heterosis and breed effects for postweaning performance and carcass traits in four breeds of swine, 83
Reproductive rates, birth weight, calving ease and 24-h calf survival in a four-breed diallel among Simmental, Limousin, Polled Hereford and Brahman beef cattle, 65
Size-scaled lean and fat growth patterns of serially slaughtered beef animals, 1292
Voluntary intake, gain, digestibility, rate of passage and gastrointestinal tract fill in tropical and

temperate breeds of sheep, 880
Brown Swiss
Heterosis and additive breed effects on feedlot and carcass traits from crossing Angus and Brown Swiss, 1332

C

Calcium
Effect of dietary supplements of sodium or potassium bicarbonate on short-term macromineral balance in swine, 1079
Calibration
Biases in regression when prediction is inverse to causation, 594
Calving Season
Expected reponses to index selection for direct and maternal additive effects of gestation length or birth date in beef cattle, 357
Genetic parameters for gestation length, birth date and first breeding date in beef cattle, 348
Heritability estimates for calving date in Simmental cattle, 701
Influence of calving season and stocking rate on beef cow-calf productivity, 687
Cannulation
A method for chronically quantifying net absorption of nutrients and gut metabolites into hepatic portal vein in conscious swine, 923
Carbadox
Effect of dietary supplementation with vitamin C or carbadox on weanling pigs subjected to crowding stress, 1672
Carbon Tetrachloride
Changes in hepatic function tests to induced toxicity in the bovine liver, 201
Carcasses
Association of micrometric traits on meat quality, fattening and slaughter traits in the pig, 1412
Characteristics of lean from culled breeding ewes, 1648
Effect of weight at castration on steer performance in the feedlot, 343
Effects of differing ratios of corn silage and corn grain on feedlot performance, carcass characteristics and projected economic returns, 23
Effects of maternal undernutrition during early pregnancy on growth, muscle cellularity, fiber type and carcass composition in lambs, 1419
Effects of spray chilling and carcass spacing on beef carcass cooler shrink and grade factors, 165
Gain, feed efficiency and carcass quality of finishing swine fed raw soybeans, 177
Growth and carcass traits of heifers as affected by hormonal treatment, 1434
Heterosis and additive breed effects on feedlot and carcass traits from crossing Angus and Brown Swiss, 1332
Individual heterosis and breed effects for postweaning performance and carcass traits in four breeds of swine, 83
Lamb performance on extended-season grazing of tyfon, 1275
Stimulation of pig growth performance by porcine growth hormone: Determination of the dose-response relationship, 433
Castration
Blood and serum components and organ weights in steers, bulls and zeranol-implanted bulls, 489
Effect of weight at castration on steer performance in the feedlot, 343
Catecholamines
Hormonal control of porcine adipose tissue fatty acid release and cyclic AMP concentration, 1031
Cathepsins
Relationships between rate of growth, catheptic enzymes and meat palatability in young bulls, 1448
Cattle
Absorption, plasma flux and oxidation of L-leucine in heifers at two levels of intake, 420
Active immunization of heifers against prostaglandin $F_{2\alpha}$: Potential as a sterilization vaccine, 1090
Ammoniation and magnesium supplementation of wheat straw diets—Effects on performance and mineral status of beef cows, 945
Associative effects of sorghum silage and sorghum grain diets, 1779
Beef cattle dietary and intake calculation for the net energy system by quartic equation, 1189
Biochemical analysis of bovine follicular fluid: Albumin, total protein, lysosomal enzymes, ions, steroids and ascorbic acid content in relation to follicular size, rank, atresia classification and day of estrous cycle, 1153
Blood and serum components and organ weights in steers, bulls and zeranol-implanted bulls, 489
Bovine corpus luteum regression and estrous response following treatment with alfaprostol, 1280
Breed cross comparisons of beef cow productivity relative to winter feed inputs, 714
Changes in hepatic function tests to induced toxicity in the bovine liver, 201
Comparison of surface diameters and dissected diameters of bovine ovarian follicles, 226
Composition and yield of milk from beef-type Bos taurus and Bos indicus × Bos taurus dams, 373
Concentrations of hormones in plasma from cattle with different growth potentials, 426
Corn particle starch digestion, passage and size reduction in beef steers: A dynamic model, 1194
Cow and calf performance and economic considerations of early weaning of fall-born beef calves, 15
Cyclic variation in cattle feed intake data: Characterization and implications for experimental design, 1638
Deficiency of uridine monophosphate synthase in Holstein cattle: Inheritance and body measurements, 695
Dietary urea influences on digestibility and utilization of diets containing peanut skins by steers, 1
Effect of compensatory growth on regulation of growth and lactation: Response of dairy heifers to a stair-step growth pattern, 1751
Effect of level of beef cow milk production on pre- and postweaning calf growth, 1313
Effect of region of the United States and age of dam on birth weight and 205-d weight of Simmental calves, 955
Effect of the uterus on subnormal luteal function

in anestrous beef cows, 1506
Effect of weight at castration on steer performance in the feedlot, 343
Effects of differing ratios of corn silage and corn grain on feedlot performance, carcass characteristics and projected economic returns, 23
Effects of 17β-estradiol and diets varying in energy on secretion of luteinizing hormone in beef heifers, 805
Effects of age of dam on weight traits in the Simmental population, 992
Effects of ammoniation of tall fescue on phenolic composition, feed intake, site and extent of nutrient digestion and ruminal dilution rates of steers, 842
Effects of forage system on beef cow-calf productivity, 678
Effects of monensin on voluntary intake, eating and ruminating behavior and ruminal motility in heifers fed corn silage, 827
Effects of norgestomet on follicular development in postpartum beef cows, 1099
Effects of offering different amounts and types of supplemental feeds to growing dairy steers fed endophyte-infected fescue hay ad libitum on intake, digestion, passage rate and serum prolactin concentration, 1769
Effects of prepartum energy intake on steroids during late gestation and on cow and calf performance, 1703
Effects of rolling on the composition and utilization by growing steers of whole-plant corn silage, 303
Effects of using sires selected for yearling weight and crossbreeding with beef and dairy breeds: Birth and weaning traits, 1591
Efficacy of actaplanin fed on a twice-weekly basis to grazing stocker heifers, 578
Endocrine and body growth traits in heifers exposed to testosterone-propionate during early fetal development, 1858
Evaluation of phenotypic and genetic trends in weaning weight in Angus and Hereford populations in Virginia, 1349
Evaluation of rare-earth markers using an in vitro ruminal fermentation system and effect of processing method on ruminal turnover of sized corn particles, 1835
Expected responses to index selection for direct and maternal additive effects of gestation length or birth date in beef cattle, 357
Follicle culture enhances fertilizability and cleavage of bovine oocytes matured in vitro, 935
Genetic parameters and consequences of selection for growth traits in a beef herd selected for yearling weight, 366
Genetic parameters for gestation length, birth date and first breeding date in beef cattle, 348
Genetic parameters, maternal ability and related selection criteria for unsupplemented Hereford range cows, 1630
Genetic trends due to bull selection and differential usage in the Simmental population, 983
Growth and carcass traits of heifers as affected by hormonal treatment, 1434
Heritabilities of predicted performance measures in beef bull tests and their relationships with feedlot efficiency measures, 1323
Heritability estimates for calving date in Simmental cattle, 701
Heterosis, breed maternal and breed direct effects in Red Poll and Hereford cattle, 963
Hormone secretion and characteristics of estrous cycles after treatment of heifers with human chorionic gonadotropin or prostaglandin $F_{2\alpha}$ during corpus luteum formation, 782
Hypoglycemia alters pulsatile luteinizing hormone secretion in the postpartum beef cow, 479
Influence of biostimulation by mature bulls on occurrence of puberty in beef heifers, 1601
Influence of calving season and stocking rate on beef cow-calf productivity, 687
Influence of decoquinate on ruminal fermentation, diet digestibility and cattle performance, 1227
Influence of thermo-ammoniation on quality of warm-season grass hay for steers, 1821
Influence of varying levels of blood progesterone upon estrous behavior in cattle, 126
Influence of wintering weight change on subsequent pasture and feedlot performance by steers, 32
Inheritance and interaction of immune traits in beef calves, 385
Intake, digestion, passage rate and serum prolactin in growing dairy steers fed endophyte-infected fescue with noninfected fescue, clover or wheat straw, 1759
Interlobular distribution of hepatic xenobiotic-metabolizing enzyme activities in cattle, goats and sheep, 210
Interrelationships among voluntary intake, eating and ruminating behavior and ruminal motility of heifers fed corn silage, 835
Life cycle efficiency of beef production: VII. Prediction of cow efficiency ratios for progeny weaned and slaughtered, 50
Lipogenesis in adipose tissue from ovariectomized and intact heifers immunized against estradiol and(or) implanted with trenbolone acetate, 1428
Nuclear transplantation in bovine embryos, 642
Ovarian follicular populations and in vitro steroidogenesis on three different days of the bovine estrous cycle, 1710
Performance, methanogenesis and nitrogen metabolism of finishing steers fed monensin and nickel, 887
Postweaning weights and gains of cattle raised under range and gain test environments, 969
Production characters of primiparous females of a five-breed diallel, 1612
Relationship between weaning and secretion of luteinizing hormone, cortisol and transcortin in beef cows, 1498
Relationship of absolute numbers of Sertoli cells to testicular size and spermatogenesis in young beef bulls, 241
Reproductive rates, birth weight, calving ease and 24-h calf survival in a four-breed diallel among Simmental, Limousin, Polled Hereford and Brahman beef cattle, 65
Response of postpartum beef cows to exogenous progestogens and gonadotropin releasing hormone, 540
Ruminal microbial development in conventionally

or early-weaned calves, 1215
Serum isocitrate dehydrogenase during polybrominated biphenyl toxicosis in dairy cattle, 467
Serum proteins as carriers of amino acids to and from the hindlimbs of fed and fasted calves, 586
Simultaneous measures of rates of ruminal digestion and passage of feeds for prediction of ruminal nitrogen and dry matter digestion in lactating dairy cows, 565
Sire X environment interactions and genetic correlations of sire progeny performance across regions in dam-adjusted field data, 77
Site of protein digestion in steers fed sorghum grain diets. I. Effect of level of feed intake, 1533
Site of protein digestion in steers fed sorghum grain diets. II. Effect of grain processing methods, 1541
Size-scaled lean and fat growth patterns of serially slaughtered beef animals, 1292
Testicular development, daily sperm production and epididymal sperm reserves in 15-mo-old Angus and Hereford bulls: Effects of bull strain plus dietary energy, 254
The effect of heat stress on early embryonic development in the beef cow, 1512
The prophylactic effect of corn supplementation on experimental nitrate intoxication in cattle, 1682
Transport and hindlimb exchange of peptide and serum protein amino acids in calves fed soy- or urea-based purified diets, 1852
Transport and hindlimb exchange of plasma and blood-cell amino acids in calves fed soy- or urea-based purified diets, 1842
Validation of urea dilution to estimate in vivo body composition in cattle, 1024
Variance and covariance estimates for maternally influenced beef growth traits, 728

Cell Culture
A statistically standardized muscle cell culture bioassay measuring the effect of swine serum on muscle cell proliferation, 615
Pre-adipocyte proliferation and differentiation in response to hormone supplementation of decapitated fetal pig sera, 735
Stimulation of in vitro muscle cell proliferation by sera from swine injected with porcine growth hormone, 623
The relationship between cell proliferation and phosphatidylinositol metabolism in skeletal muscle cells in culture, 633

Chilling
Effects of rapid chilling and accelerated processing on the physical and sensory characteristics of fresh pork loins, 765
Effects of spray chilling and carcass spacing on beef carcass cooler shrink and grade factors, 165

Chlorides
Effect of dietary supplements of sodium or potassium bicarbonate on short-term macromineral balance in swine, 1079

Cholecystokinin
Mechanisms controlling feed intake in ruminants: A review, 915

Choriomammotropin
A comparative study of ovine placental lactogen and prolactin secretion patterns in genetically dissimilar fetal co-twins, 1696

Clones
Screening of a bovine genomic library for myosin heavy-chain genes, 607

Collagen
Characteristics of lean from culled breeding ewes, 1648
Fiber-optic reflectance and autofluorescence of bovine elastin and differences between intramuscular and extramuscular tendon, 1038

Colostrum
Estrone concentration in sow milk during and after parturition, 1086
Inheritance and interaction of immune traits in beef calves, 385

Compensation
Influence of wintering weight change on subsequent pasture and feedlot performance by steers, 32

Computer Techniques
A derivative-free approach for estimating variance components in animal models by restricted maximum likelihood, 1362

Contamination
Characterization of in situ nitrogen and fiber digestion and bacterial nitrogen contamination of hay crop forages preserved at different dry matter percentages, 552

Copper
Comparison of cupric and sulfate ion effects on chronic selenosis in rats, 1467

Corn
Apparent digestibility of amino acids, gross energy and starch in corn, sorghum, wheat, barley, oat groats and wheat middlings for growing pigs, 1655
Corn particle starch digestion, passage and size reduction in beef steers: A dynamic model, 1194
Effects of differing ratios of corn silage and corn grain on feedlot performance, carcass characteristics and projected economic returns, 23
Effects of rolling on the composition and utilization by growing steers of whole-plant corn silage, 303
Influence of supplemental nitrogen source on digestion of nitrogen, dry matter and organic matter and on in vivo rate of ruminal protein degradation, 1801
The prophylactic effect of corn supplementation on experimental nitrate intoxication in cattle, 1682
Tryptophan availability of some feedstuffs determined by pig growth assay, 191

Corpus Luteum
Bovine corpus luteum regression and estrous response following treatment with alfaprostol, 1280
Comparison of induced corpora lutea from prepuberal gilts and spontaneous corpora lutea from mature gilts: In vitro progesterone production, 526
Comparison of induced corpora lutea from prepuberal gilts and spontaneous corpora lutea from mature gilts: Hydroxysteroid dehydrogenase activity, 237

Effect of prostaglandin $F_{2\alpha}$ administration on early pregnancy in ewes, 1127
Effect of the uterus on subnormal luteal function in anestrous beef cows, 1506
Follicle stimulating hormone pattern and luteal function in ewes receiving bovine follicular fluid during three stages of the estrous cycle, 1491
Function of ovine corpora lutea after administration of luteinizing hormone-releasing hormone, 648
Response of postpartum beef cows to exogenous progestogens and gonadotropin releasing hormone, 540
Correlations
Effects of selection for rapid postweaning gain on maturing patterns of fat depots in mice, 133
Estimates of genetic parameters for sexual and compositional maturity in gilts, 977
Factors influencing best annual racing time in Finnish horses, 109
Genetic and phenotypic parameters for pig growth and body composition estimated by intraclass correlation and parent-offspring regression, 1619
Genetic parameters and consequences of selection for growth traits in a beef herd selected for yearling weight, 366
Heritabilities of annually summarized race records in trotters, 117
Postweaning weights and gains of cattle raised under range and gain test environments, 969
Cortisol
Concentrations of hormones in plasma from cattle with different growth potentials, 426
Determination of the temporal relationship between porcine growth hormone, serum IGF-1 and cortisol concentrations in pigs, 1019
Relationship between weaning and secretion of luteinizing hormone, cortisol and transcortin in beef cows, 1498
Cottonseed
Glandless cottonseed kernels for starter, grower and finisher swine, 1051
Influence of cottonseed meal supplementation on voluntary intake, ruminal and cecal fermentation, digesta kinetics and serum insulin and growth hormone in mature ewes fed prairie hay, 1178
Tryptophan availability of some feedstuffs determined by pig growth assay, 191
Crossbreeding
Breed and heterosis effects on wool and lamb production of rotationally crossed ewes, 43
Breed cross comparisons of beef cow productivity relative to winter feed inputs, 714
Effects of using sires selected for yearling weight and crossbreeding with beef and dairy breeds: Birth and weaning traits, 1591
Growth performance for four breeds of swine: Crossbred females and purebred and crossbred boars, 99
Heterosis and breed maternal and transmitted effects in beef cattle. V. Weight, height and condition score of females, 706
Heterosis, breed maternal and breed direct effects in Red Poll and Hereford cattle, 963
Production characters of primiparous females of a five-breed diallel, 1612
Reproductive rates, birth weight, calving ease and 24-h calf survival in a four-breed diallel among Simmental, Limousin, Polled Hereford and Brahman beef cattle, 65
Cytochromes
Changes in hepatic function tests to induced toxicity in the bovine liver, 201

D

Decoquinate
Influence of decoquinate on ruminal fermentation, diet digestibility and cattle performance, 1227
Deoxyribonucleic Acid
Screening of a bovine genomic library for myosin heavy-chain genes, 607
Deuterium Oxide
A flow-limited simulation model of isotopic water dilution, 1010
Development Aid
Canadian involvement in international animal agriculture programs, 1560
University involvement in farming systems, 1568
Diets
Duodenal bacterial and nonbacterial protein supply in steers fed forage and grain diets, 295
Effects of 17β-estradiol and diets varying in energy on secretion of luteinizing hormone in beef heifers, 805
Digestibility
Apparent digestibility of amino acids, gross energy and starch in corn, sorghum, wheat, barley, oat groats and wheat middlings for growing pigs, 1655
Digestibility, intake and mineral utilization of combinations of grasses and legumes by lambs, 1725
Effects of ammoniation of tall fescue on phenolic composition, feed intake, site and extent of nutrient digestion and ruminal dilution rates of steers, 842
Effects of varying zinc concentrations on quality of alfalfa for lambs, 1735
Ensiling characteristics and digestibility of combinations of turnips and wheat straw, 1790
Influence of decoquinate on ruminal fermentation, diet digestibility and cattle performance, 1227
Predicting intake and digestibility using mathematical models of ruminal function, 1548
Treatment of wheat straw with alkaline solutions prepared from wood ashes to improve fiber utilization by ruminants, 669
Voluntary intake, gain, digestibility, rate of passage and gastrointestinal tract fill in tropical and temperate breeds of sheep, 880
Digestion
Associative effects of sorghum silage and sorghum grain diets, 1779
Characterization of in situ nitrogen and fiber digestion and bacterial nitrogen contamination of hay crop forages preserved at different dry matter percentages, 552
Corn particle starch digestion, passage and size reduction in beef steers: A dynamic model, 1194

Digestibility and rate of passage by lambs of water-stressed alfalfa, 1813
Duodenal bacterial and nonbacterial protein supply in steers fed forage and grain diets, 295
Effect of feeding frequency on forage fiber and nitrogen utilization in sheep, 1170
Effect of wheat and high-moisture sorghum grain fed singly and in combination on ruminal fermentation, solid and liquid flow, site and extent of digestion and feeding performance of cattle, 897
Effects of offering different amounts and types of supplemental feeds to growing dairy steers fed endophyte-infected fescue hay ad libitum on intake, digestion, passage rate and serum prolactin concentration, 1769
Effects of rolling on the composition and utilization by growing steers of whole-plant corn silage, 303
Effects of tallow supplementation and protein withdrawal on ruminal fermentation, microbial synthesis and site of digestion, 907
Evaluation of rare-earth markers using an in vitro ruminal fermentation system and effect of processing method on ruminal turnover of sized corn particles, 1835
Influence of thermo-ammoniation on quality of warm-season grass hay for steers, 1821
Intake, digestion, passage rate and serum prolactin in growing dairy steers fed endophyte-infected fescue with noninfected fescue, clover or wheat straw, 1759
Simultaneous measures of rates of ruminal digestion and passage of feeds for prediction of ruminal nitrogen and dry matter digestion in lactating dairy cows, 565
Whole soybeans for market lambs, 1249
Dilution
A flow-limited simulation model of isotopic water dilution, 1010
Effects of slaframine on ruminant digestive function: Liquid turnover rate and fermentation patterns in sheep and cattle, 1241
Validation of urea dilution to estimate in vivo body composition in cattle, 1024
Duodenum
Duodenal bacterial and nonbacterial protein supply in steers fed forage and grain diets, 295
Dystocia
Genetic trends due to bull selection and differential usage in the Simmental population, 983

E

Economic Analysis
Cow and calf performance and economic considerations of early weaning of fall-born beef calves, 15
Effects of differing ratios of corn silage and corn grain on feedlot performance, carcass characteristics and projected economic returns, 23
Effects of forage system on beef cow-calf productivity, 678
Influence of calving season and stocking rate on beef cow-calf productivity, 687
Minimum cost nutrient requirements from a growth response function, 312
Efficiency
Breed cross comparisons of beef cow productivity relative to winter feed inputs, 714
Gain, feed efficiency and carcass quality of finishing swine fed raw soybeans, 177
Growth performance for four breeds of swine: Crossbred females and purebred and crossbred boars, 99
Heritabilities of predicted performance measures in beef bull tests and their relationships with feedlot efficiency measures, 1323
Life cycle efficiency of beef production: VII. Prediction of cow efficiency ratios for progeny weaned and slaughtered, 50
Elastin
Fiber-optic reflectance and autofluorescence of bovine elastin and differences between intramuscular and extramuscular tendon, 1038
Electrolytes
Effect of dietary electrolyte balance on growth and acid-base status in swine, 457
Embryos
A comparative study of ovine placental lactogen and prolactin secretion patterns in genetically dissimilar fetal co-twins, 1696
Central endocrine regulation of the development of hormone responses in porcine fetal adipose tissue, 745
Differentiation of adipose tissue and muscle in hypophysectomized pig fetuses, 1255
Factors contributing to early embryonic mortality in gilts bred at first estrus, 474
Histogenesis of the ovine uterus, 1262
Nuclear transplantation in bovine embryos, 642
The effect of heat stress on early embryonic development in the beef cow, 1512
Energy
Beef cattle dietary and intake calculation for the net energy system by quartic equation, 1189
Breed cross comparisons of beef cow productivity relative to winter feed inputs, 714
Effects of differing ratios of corn silage and corn grain on feedlot performance, carcass characteristics and projected economic returns, 23
Enhancement of ovulation rate in gilts by increasing dietary energy and administering insulin during follicular growth, 507
Mechanisms controlling feed intake in ruminants: A review, 915
Metabolic utilization of energy and maintenance requirements in lactating sows, 774
Minimum cost nutrient requirements from a growth response function, 312
Environment
Effect of photoperiod and temperature on prolactin secretion in ovariectomized gilts, 1690
Factors influencing best annual racing time in Finnish horses, 109
Hormonal patterns of boars exposed to natural or supplemental lighting during pubertal development, 1110
Influences of season and artificial photoperiod on stallions: Testicular size, seminal characteristics and sexual behavior, 517
Sire × environment interactions and genetic correlations of sire progeny performance across regions in dam-adjusted field data, 77

Enzymes
Changes in hepatic function tests to induced toxicity in the bovine liver, 201
Comparison of induced corpora lutea from prepuberal gilts and spontaneous corpora lutea from mature gilts: Hydroxysteroid dehydrogenase activity, 237
Deficiency of uridine monophosphate synthase in Holstein cattle: Inheritance and body measurements, 695
Effects of long-term thrice-daily milking on mammary enzyme activity, cell population and milk yield in the goat, 533
Enzymes of glucose and fatty acid metabolism of liver, kidney, skeletal muscle, adipose tissue and mammary gland of lactating and non-lactating sheep, 1395
Serum isocitrate dehydrogenase during polybrominated biphenyl toxicosis in dairy cattle, 467
Epostane
Induction of parturition in swine with epostane, a competitive inhibitor of 3β-hydroxysteroid dehydrogenase, 497
Estrogens
Active immunization of heifers against prostaglandin $F_{2\alpha}$: Potential as a sterilization vaccine, 1090
Effect of charcoal-extracted porcine follicular fluid and 17β-estradiol on follicular growth and plasma gonadotropins in gilts fed a progesterone agonist, altrenogest, 816
Effect of human chorionic gonadotropin on preovulatory luteinizing hormone surge and ovarian hormone secretion in gilts, 1134
Effects of 17β-estradiol and diets varying in energy on secretion of luteinizing hormone in beef heifers, 805
Effects of estradiol-17β, naloxone and gonadotropin releasing hormone on postpartum secretion of luteinizing hormone in fall-lambing ewes, 1484
Effects of norgestomet on follicular development in postpartum beef cows, 1099
Effects of prepartum energy intake on steroids during late gestation and on cow and calf performance, 1703
Endocrine and body growth traits in heifers exposed to testosterone-propionate during early fetal development, 1858
Enhancement of ovulation rate in gilts by increasing dietary energy and administering insulin during follicular growth, 507
Estrone concentration in sow milk during and after parturition, 1086
Factors contributing to early embryonic mortality in gilts bred at first estrus, 474
Growth and carcass traits of heifers as affected by hormonal treatment, 1434
Lipogenesis in adipose tissue from ovariectomized and intact heifers immunized against estradiol and(or) implanted with trenbolone acetate, 1428
Ovarian follicular populations and in vitro steroidogenesis on three different days of the bovine estrous cycle, 1710
Estrous Cycle
Biochemical analysis of bovine follicular fluid: Albumin, total protein, lysosomal enzymes, ions, steroids and ascorbic acid content in relation to follicular size, rank, atresia classification and day of estrous cycle, 1153
Bovine corpus luteum regression and estrous response following treatment with alfaprostol, 1280
Effect of body condition and floor material on sow performance, 36
Effect of protein and energy intake by primiparous sows during lactation on sow and litter performance and sow serum thyroxine and urea concentrations, 1060
Effects of norgestomet on follicular development in postpartum beef cows, 1099
Endocrinology of the postpartum period in the Pelibuey ewe, 1717
Estrous and litter traits in gilts altered by altrenogest, flushing and pubertal status, 1117
Follicle stimulating hormone pattern and luteal function in ewes receiving bovine follicular fluid during three stages of the estrous cycle, 1491
Genetic parameters for gestation length, birth date and first breeding date in beef cattle, 348
Influence of varying levels of blood progesterone upon estrous behavior in cattle, 126
Experimental Designs
Cyclic variation in cattle feed intake data: Characterization and implications for experimental design, 1638

F

Farming Systems
University involvement in farming systems, 1568
Fasting
Effects of feed and water restriction and receiving diet crude protein on feeder pig performance, 1606
Serum proteins as carriers of amino acids to and from the hindlimbs of fed and fasted calves, 586
Fatty Acids
Gluconeogenesis in isolated lamb hepatocytes, 283
Feed Additives
Efficacy of actaplanin fed on a twice-weekly basis to grazing stocker heifers, 578
Feeding
Effect of feeding frequency on forage fiber and nitrogen utilization in sheep, 1170
Effects of plane of nutrition and phenobarbital during the pre-mating period on reproduction in ewes fed differentially during the summer and mated in the fall, 1144
Estrous and litter traits in gilts altered by altrenogest, flushing and pubertal status, 1117
Influence of meal frequency on postprandial variations in the production and absorption of volatile fatty acids in the digestive tract of conscious pigs, 448
The effect of feeder space allowance on weaned pig performance, 8

Feedlots
Effect of weight at castration on steer performance in the feedlot, 343
Effects of differing ratios of corn silage and corn grain on feedlot performance, carcass characteristics and projected economic returns, 23
Heritabilities of predicted performance measures in beef bull tests and their relationships with feedlot efficiency measures, 1323
Heterosis and additive breed effects on feedlot and carcass traits from crossing Angus and Brown Swiss, 1332
Influence of wintering weight change on subsequent pasture and feedlot performance by steers, 32
Whole soybeans for market lambs, 1249
Feeds
Apparent digestibility of amino acids, gross energy and starch in corn, sorghum, wheat, barley, oat groats and wheat middlings for growing pigs, 1655
Effects of rolling on the composition and utilization by growing steers of whole-plant corn silage, 303
Glandless cottonseed kernels for starter, grower and finisher swine, 1051
Predicting intake and digestibility using mathematical models of ruminal function, 1548
Fermentation
Effect of fats and fatty acid combinations on ruminal fermentation in semi-continuous in vitro cultures, 1526
Effect of wheat and high-moisture sorghum grain fed singly and in combination on ruminal fermentation, solid and liquid flow, site and extent of digestion and feeding performance of cattle, 897
Effects of slaframine on ruminant digestive function: Liquid turnover rate and fermentation patterns in sheep and cattle, 1241
Effects of tallow supplementation and protein withdrawal on ruminal fermentation, microbial synthesis and site of digestion, 907
Influence of cottonseed meal supplementation on voluntary intake, ruminal and cecal fermentation, digesta kinetics and serum insulin and growth hormone in mature ewes fed prairie hay, 1178
Influence of decoquinate on ruminal fermentation, diet digestibility and cattle performance, 1227
Ruminal microbial development in conventionally or early-weaned calves, 1215
Fescue
Effects of ammoniation of tall fescue on phenolic composition, feed intake, site and extent of nutrient digestion and ruminal dilution rates of steers, 842
Effects of offering different amounts and types of supplemental feeds to growing dairy steers fed endophyte-infected fescue hay ad libitum on intake, digestion, passage rate and serum prolactin concentration, 1769
Intake, digestion, passage rate and serum prolactin in growing dairy steers fed endophyte-infected fescue with noninfected fescue, clover or wheat straw, 1759
Fiber
Analysis of forage research samples utilizing a combination of wet chemistry and near infrared reflectance spectroscopy, 271
Associative effects of sorghum silage and sorghum grain diets, 1779
Effect of feeding frequency on forage fiber and nitrogen utilization in sheep, 1170
Ensiling characteristics and digestibility of combinations of turnips and wheat straw, 1790
Predicting intake and digestibility using mathematical models of ruminal function, 1548
Fiber Optics
Fiber-optic reflectance and autofluorescence of bovine elastin and differences between intramuscular and extramuscular tendon, 1038
Floor Types
Effect of body condition and floor material on sow performance, 36
Flow Constants
Evaluation of rare-earth markers using an in vitro ruminal fermentation system and effect of processing method on ruminal turnover of sized corn particles, 1835
Fluorescence
Fiber-optic reflectance and autofluorescence of bovine elastin and differences between intramuscular and extramuscular tendon, 1038
Follicle Stimulating Hormone
Effect of charcoal-extracted porcine follicular fluid and 17β-estradiol on follicular growth and plasma gonadotropins in gilts fed a progesterone agonist, altrenogest, 816
Enhancement of ovulation rate in gilts by increasing dietary energy and administering insulin during follicular growth, 507
Follicle stimulating hormone pattern and luteal function in ewes receiving bovine follicular fluid during three stages of the estrous cycle, 1491
Hormonal patterns of boars exposed to natural or supplemental lighting during pubertal development, 1110
Influence of manure gases on puberty in gilts, 1476
Passive immunization of cyclic mares against androgen: Gonadotropin and progesterone concentrations and estrous characteristics, 797
Pituitary responsiveness of mares challenged with GnRH at various stages of the transition into the breeding season, 790
Secretion of luteinizing hormone and follicle stimulating hormone in intact and ovariectomized mares in summer and winter, 247
Follicles
Biochemical analysis of bovine follicular fluid: Albumin, total protein, lysosomal enzymes, ions, steroids and ascorbic acid content in relation to follicular size, rank, atresia classification and day of estrous cycle, 1153
Comparison of surface diameters and dissected diameters of bovine ovarian follicles, 226
Effect of charcoal-extracted porcine follicular fluid and 17β-estradiol on follicular growth and plasma gonadotropins in gilts fed a progesterone agonist, altrenogest, 816
Effects of norgestomet on follicular development

in postpartum beef cows, 1099
Follicle culture enhances fertilizability and cleavage of bovine oocytes matured in vitro, 935
Follicle stimulating hormone pattern and luteal function in ewes receiving bovine follicular fluid during three stages of the estrous cycle, 1491
Ovarian follicular populations and in vitro steroidogenesis on three different days of the bovine estrous cycle, 1710
Forage
Ammoniation or cane molasses supplementation of low quality forages, 1205
Analysis of forage research samples utilizing a combination of wet chemistry and near infrared reflectance spectroscopy, 271
Characterization of in situ nitrogen and fiber digestion and bacterial nitrogen contamination of hay crop forages preserved at different dry matter percentages, 552
Digestibility and rate of passage by lambs of water-stressed alfalfa, 1813
Digestibility, intake and mineral utilization of combinations of grasses and legumes by lambs, 1725
Duodenal bacterial and nonbacterial protein supply in steers fed forage and grain diets, 295
Effect of feeding frequency on forage fiber and nitrogen utilization in sheep, 1170
Effects of forage system on beef cow-calf productivity, 678
Genetic parameters, maternal ability and related selection criteria for unsupplemented Hereford range cows, 1630
Influence of calving season and stocking rate on beef cow-calf productivity, 687
Influence of wintering weight change on subsequent pasture and feedlot performance by steers, 32
Lamb performance on extended-season grazing of tyfon, 1275
Near infrared reflectance spectroscopy for quality analysis of Sandhills meadow forage, 1743
Voluntary intake, gain, digestibility, rate of passage and gastrointestinal tract fill in tropical and temperate breeds of sheep, 880

G

Genetic Engineering
Nuclear transplantation in bovine embryos, 642
Screening of a bovine genomic library for myosin heavy-chain genes, 607
Genetic Parameters
Components of variance and covariance for reproductive traits in swine estimated from Yorkshire field data, 1285
Deficiency of uridine monophosphate synthase in Holstein cattle: Inheritance and body measurements, 695
Evaluation of phenotypic and genetic trends in weaning weight in Angus and Hereford populations in Virginia, 1349
Factors influencing best annual racing time in Finnish horses, 109
Genetic and phenotypic parameters for pig growth and body composition estimated by intraclass correlation and parent-offspring regression, 1619
Genetic parameters and consequences of selection for growth traits in a beef herd selected for yearling weight, 366
Genetic parameters for gestation length, birth date and first breeding date in beef cattle, 348
Genetic parameters, maternal ability and related selection criteria for unsupplemented Hereford range cows, 1630
Genetic trends due to bull selection and differential usage in the Simmental population, 983
Inheritance and interaction of immune traits in beef calves, 385
Gestation Period
Expected responses to index selection for direct and maternal additive effects of gestation length or birth date in beef cattle, 357
Genetic parameters for gestation length, birth date and first breeding date in beef cattle, 348
Glucocorticoids
Effects of adrenalectomy and glucocorticoids on puberty in gilts reared in confinement, 231
Gluconeogenesis
Gluconeogenesis in isolated lamb hepatocytes, 283
Glycoproteins
Relationship between weaning and secretion of luteinizing hormone, cortisol and transcortin in beef cows, 1498
Goats
Effects of long-term thrice-daily milking on mammary enzyme activity, cell population and milk yield in the goat, 533
Interlobular distribution of hepatic xenobiotic-metabolizing enzyme activities in cattle, goats and sheep, 210
Treatment of wheat straw with alkaline solutions prepared from wood ashes to improve fiber utilization by ruminants, 669
Gonadotropin Releasing Hormone
Effects of suckling, progestogen-impregnated pessaries or hysterectomy on ovarian function in autumn-lambing postpartum ewes, 216
Pituitary responsiveness of mares challenged with GnRH at various stages of the transition into the breeding season, 790
Response of postpartum beef cows to exogenous progestogens and gonadotropin releasing hormone, 540
Growth
Active immunization of heifers against prostaglandin $F_{2\alpha}$: Potential as a sterilization vaccine, 1090
Compensatory growth in finishing pigs after feed restriction, 752
Determination of the temporal relationship between porcine growth hormone, serum IGF-1 and cortisol concentrations in pigs, 1019
Effect of compensatory growth on regulation of growth and lactation: Response of dairy heifers to a stair-step growth pattern, 1751
Effect of level of beef cow milk production on pre- and postweaning calf growth, 1313
Effects of age of dam on weight traits in the Simmental population, 992
Effects of maternal undernutrition during early

pregnancy on growth, muscle cellularity, fiber type and carcass composition in lambs, 1419
Effects of selection for rapid postweaning gain on maturing patterns of fat depots in mice, 133
Endocrine and body growth traits in heifers exposed to testosterone-propionate during early fetal development, 1858
Gain, feed efficiency and carcass quality of finishing swine fed raw soybeans, 177
Genetic and phenotypic parameters for pig growth and body composition estimated by intraclass correlation and parent-offspring regression, 1619
Genetic parameters and consequences of selection for growth traits in a beef herd selected for yearling weight, 366
Genetic parameters, maternal ability and related selection criteria for unsupplemented Hereford range cows, 1630
Genetic trends due to bull selection and differential usage in the Simmental population, 983
Growth and carcass traits of heifers as affected by hormonal treatment, 1434
Growth performance for four breeds of swine: Crossbred females and purebred and crossbred boars, 99
Individual heterosis and breed effects for postweaning performance and carcass traits in four breeds of swine, 83
Influence of wintering weight change on subsequent pasture and feedlot performance by steers, 32
Minimum cost nutrient requirements from a growth response function, 312
Plasma somatotropin response to exogenous growth hormone releasing factor in lambs, 1002
Postweaning weights and gains of cattle raised under range and gain test environments, 969
Pre-adipocyte proliferation and differentiation in response to hormone supplementation of decapitated fetal pig sera, 735
Relationships between rate of growth, catheptic enzymes and meat palatability in young bulls, 1448
Size-scaled lean and fat growth patterns of serially slaughtered beef animals, 1292
Stimulation of pig growth performance by porcine growth hormone: Determination of the dose-response relationship, 433
The relationship between cell proliferation and phosphatidylinositol metabolism in skeletal muscle cells in culture, 633
Variance and covariance estimates for maternally influenced beef growth traits, 728

H

Hay
Digestibility and rate of passage by lambs of water-stressed alfalfa, 1813
Effects of varying zinc concentrations on quality of alfalfa for lambs, 1735
Influence of cottonseed meal supplementation on voluntary intake, ruminal and cecal fermentation, digesta kinetics and serum insulin and growth hormone in mature ewes fed prairie hay, 1178
Influence of thermo-ammoniation on quality of warm-season grass hay for steers, 1821
Heat Production
Metabolic utilization of energy and maintenance requirements in lactating sows, 774
Heat Stress
The effect of heat stress on early embryonic development in the beef cow, 1512
Height
Heterosis and breed maternal and transmitted effects in beef cattle. V. Weight, height and condition score of females, 706
Heritability
Estimates of genetic parameters for sexual and compositional maturity in gilts, 977
Factors influencing best annual racing time in Finnish horses, 109
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: II. Comparison of additive direct and maternal genetic effects, 414
Genetic parameters and consequences of selection for growth traits in a beef herd selected for yearling weight, 366
Heritabilities of annually summarized race records in trotters, 117
Heritabilities of predicted performance measures in beef bull tests and their relationships with feedlot efficiency measures, 1323
Heritability estimates for calving date in Simmental cattle, 701
Inheritance of active and acquired immunity traits in sheep, 1302
Postweaning weights and gains of cattle raised under range and gain test environments, 969
Heterosis
Breed and heterosis effects on wool and lamb production of rotationally crossed ewes, 43
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: I. Heterosis, general combining ability and relationship to growth and backfat, 407
Heterosis and additive breed effects on feedlot and carcass traits from crossing Angus and Brown Swiss, 1332
Heterosis and breed maternal and transmitted effects in beef cattle. V. Weight, height and condition score of females, 706
Heterosis, breed maternal and breed direct effects in Red Poll and Hereford cattle, 963
Individual heterosis and breed effects for postweaning performance and carcass traits in four breeds of swine, 83
Reproductive rates, birth weight, calving ease and 24-h calf survival in a four-breed diallel among Simmental, Limousin, Polled Hereford and Brahman beef cattle, 65
Histochemistry
Comparison of induced corpora lutea from prepuberal gilts and spontaneous corpora lutea from mature gilts: Hydroxysteroid dehydrogenase activity, 237
Histology
Histogenesis of the ovine uterus, 1262
History
Animal Science: The next 100 years, 666
Significant accomplishments in livestock research during the past 100 years, 660

Holstein-Friesian
Fragmentation index as an early postmortem predictor of beef tenderness, 171
Horses
Factors influencing best annual racing time in Finnish horses, 109
Heritabilities of annually summarized race records in trotters, 117
Influences of season and artificial photoperiod on stallions: Testicular size, seminal characteristics and sexual behavior, 517
Passive immunization of cyclic mares against androgen: Gonadotropin and progesterone concentrations and estrous characteristics, 797
Pituitary responsiveness of mares challenged with GnRH at various stages of the transition into the breeding season, 790
Secretion of luteinizing hormone and follicle stimulating hormone in intact and ovariectomized mares in summer and winter, 247
Human Chorionic Gonadotropin
Effect of human chorionic gonadotropin on preovulatory luteinizing hormone surge and ovarian hormone secretion in gilts, 1134
Hydrogen Sulfide
Influence of manure gases on puberty in gilts, 1476
Hydroxysteroid Dehydrogenase
Induction of parturition in swine with epostane, a competitive inhibitor of 3β-hydroxysteroid dehydrogenase, 497
Hypophysectomy
Differentiation of adipose tissue and muscle in hypophysectomized pig fetuses, 1255
Hysterectomy
Effects of suckling, progestogen-impregnated pessaries or hysterectomy on ovarian function in autumn-lambing postpartum ewes, 216
Function of ovine corpora lutea after administration of luteinizing hormone-releasing hormone, 648

I

IBR/IPV Virus
Inheritance and interaction of immune traits in beef calves, 385
Immunity
Active immunization of heifers against prostaglandin $F_{2\alpha}$: Potential as a sterilization vaccine, 1090
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: I. Heterosis, general combining ability and relationship to growth and backfat, 407
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: II. Comparison of additive direct and maternal genetic effects, 414
Genetic control of immune responsiveness: A review of its use as a tool for selection for disease resistance, 394
Growth and carcass traits of heifers as affected by hormonal treatment, 1434
Inheritance and interaction of immune traits in beef calves, 385
Inheritance of active and acquired immunity traits in sheep, 1302
Lipogenesis in adipose tissue from ovariectomized and intact heifers immunized against estradiol and(or) implanted with trenbolone acetate, 1428
Passive immunization of cyclic mares against androgen: Gonadotropin and progesterone concentrations and estrous characteristics, 797
Immunofluorescence
Accumulation of newly synthesized myosin heavy chain during thyroxin-induced myofiber type transition, 1574
Infrared Spectroscopy
Analysis of forage research samples utilizing a combination of wet chemistry and near infrared reflectance spectroscopy, 271
Near infrared reflectance spectroscopy for quality analysis of Sandhills meadow forage, 1743
Insulin
Concentrations of hormones in plasma from cattle with different growth potentials, 426
Enhancement of ovulation rate in gilts by increasing dietary energy and administering insulin during follicular growth, 507
Influence of cottonseed meal supplementation on voluntary intake, ruminal and cecal fermentation, digesta kinetics and serum insulin and growth hormone in mature ewes fed prairie hay, 1178
Intake
Absorption, plasma flux and oxidation of L-leucine in heifers at two levels of intake, 420
Amino acid excesses for young pigs: Effects of excess methionine, tryptophan, threonine or leucine, 1664
Cyclic variation in cattle feed intake data: Characterization and implications for experimental design, 1638
Digestibility, intake and mineral utilization of combinations of grasses and legumes by lambs, 1725
Effect of dietary protein level on nitrogen metabolism in lambs: Studies using ^{15}N-nitrogen, 855
Effect of level of protein and supplemental choline on reproductive performance of gilts fed sorghum diets, 1044
Effects of ammoniation of tall fescue on phenolic composition, feed intake, site and extent of nutrient digestion and ruminal dilution rates of steers, 842
Effects of monensin on voluntary intake, eating and ruminating behavior and ruminal motility in heifers fed corn silage, 827
Effects of offering different amounts and types of supplemental feeds to growing dairy steers fed endophyte-infected fescue hay ad libitum on intake, digestion, passage rate and serum prolactin concentration, 1769
Effects of varying zinc concentrations on quality of alfalfa for lambs, 1735
Forage intake of alpacas grazing Andean rangeland in Peru, 868
Influence of cottonseed meal supplementation on voluntary intake, ruminal and cecal fermentation, digesta kinetics and serum insulin and growth hormone in mature ewes fed prairie

hay, 1178
Intake, digestion, passage rate and serum prolactin in growing dairy steers fed endophyte-infected fescue with noninfected fescue, clover or wheat straw, 1759
Interrelationships among voluntary intake, eating and ruminating behavior and ruminal motility of heifers fed corn silage, 835
Predicting intake and digestibility using mathematical models of ruminal function, 1548
Site of protein digestion in steers fed sorghum grain diets. I. Effect of level of feed intake, 1533
Voluntary intake, gain, digestibility, rate of passage and gastrointestinal tract fill in tropical and temperate breeds of sheep, 880
Interactions
Effect of region of the United States and age of dam on birth weight and 205-d weight of Simmental calves, 955
Genetic parameters, maternal ability and related selection criteria for unsupplemented Hereford range cows, 1630
Growth performance for four breeds of swine: Crossbred females and purebred and crossbred boars, 99
Sire × environment interactions and genetic correlations of sire progeny performance across regions in dam-adjusted field data, 77
International Agriculture
Canadian involvement in international animal agriculture programs, 1560
University involvement in farming systems, 1568
Iodine Value
Gain, feed efficiency and carcass quality of finishing swine fed raw soybeans, 177
Isocitrate Dehydrogenase
Serum isocitrate dehydrogenase during polybrominated biphenyl toxicosis in dairy cattle, 467

K

Kinetics
A flow-limited simulation model of isotopic water dilution, 1010

L

Lactation
Composition of sow milk during lactation, 1458
Effect of protein and energy intake by primiparous sows during lactation on sow and litter performance and sow serum thyroxine and urea concentrations, 1060
Effects of long-term thrice-daily milking on mammary enzyme activity, cell population and milk yield in the goat, 533
Enzymes of glucose and fatty acid metabolism of liver, kidney, skeletal muscle, adipose tissue and mammary gland of lactating and non-lactating sheep, 1395
Metabolic utilization of energy and maintenance requirements in lactating sows, 774
Lactobacillus acidophilus
Poultry offal ensiled with Lactobacillus acidophilus for growing and finishing swine diets, 182
Linseed Meal
Influence of supplemental nitrogen source on digestion of nitrogen, dry matter and organic matter and on in vivo rate of ruminal protein degradation, 1801
Lipids
Central endocrine regulation of the development of hormone responses in porcine fetal adipose tissue, 745
Effect of fats and fatty acid combinations on ruminal fermentation in semi-continuous in vitro cultures, 1526
Efficacy of actaplanin fed on a twice-weekly basis to grazing stocker heifers, 578
Enzymes of glucose and fatty acid metabolism of liver, kidney, skeletal muscle, adipose tissue and mammary gland of lactating and non-lactating sheep, 1395
Factors affecting measurements of glucose metabolism and lipolytic rates in porcine adipose tissue slices in vitro, 148
Fatty acid profiles and sensory and carcass traits of tissues from steers and swine fed an elevated monounsaturated fat diet, 1441
Growth and adipose tissue metabolism in young pigs fed cimaterol with adequate or low dietary protein, 1384
Hormonal control of porcine adipose tissue fatty acid release and cyclic-AMP concentration, 1031
Influence of meal frequency on postprandial variations in the production and absorption of volatile fatty acids in the digestive tract of conscious pigs, 448
Lipogenesis in adipose tissue from ovariectomized and intact heifers immunized against estradiol and(or) implanted with trenbolone acetate, 1428
Litter Traits
Estrous and litter traits in gilts altered by altrenogest, flushing and pubertal status, 1117
Factors affecting reproductive performance in swine, 1340
Liver
Effects of plane of nutrition and phenobarbital during the pre-mating period on reproduction in ewes fed differentially during the summer and mated in the fall, 1144
Enzymes of glucose and fatty acid metabolism of liver, kidney, skeletal muscle, adipose tissue and mammary gland of lactating and non-lactating sheep, 1395
Gluconeogenesis in isolated lamb hepatocytes, 283
Interlobular distribution of hepatic xenobiotic-metabolizing enzyme activities in cattle, goats and sheep, 210
Serum isocitrate dehydrogenase during polybrominated biphenyl toxicosis in dairy cattle, 467
Luteinizing Hormone
Effect of charcoal-extracted porcine follicular fluid and 17β-estradiol on follicular growth and plasma gonadotropins in gilts fed a progesterone agonist, altrenogest, 816
Effect of human chorionic gonadotropin on pre-

ovulatory luteinizing hormone surge and ovarian hormone secretion in gilts, 1134
Effects of 17β-estradiol and diets varying in energy on secretion of luteinizing hormone in beef heifers, 805
Effects of estradiol-17β, naloxone and gonadotropin releasing hormone on postpartum secretion of luteinizing hormone in fall-lambing ewes, 1484
Effects of prepartum energy intake on steroids during late gestation and on cow and calf performance, 1703
Enhancement of ovulation rate in gilts by increasing dietary energy and administering insulin during follicular growth, 507
Function of ovine corpora lutea after administration of luteinizing hormone-releasing hormone, 648
Hormonal patterns of boars exposed to natural or supplemental lighting during pubertal development, 1110
Hypoglycemia alters pulsatile luteinizing hormone secretion in the postpartum beef cow, 479
Influence of manure gases on puberty in gilts, 1476
Passive immunization of cyclic mares against androgen: Gonadotropin and progesterone concentrations and estrous characteristics, 797
Pituitary responsiveness of mares challenged with GnRH at various stages of the transition into the breeding season, 790
Relationship between weaning and secretion of luteinizing hormone, cortisol and transcortin in beef cows, 1498
Secretion of luteinizing hormone and follicle stimulating hormone in intact and ovariectomized mares in summer and winter, 247
Luteinizing Hormone Releasing Hormone
Endocrine and body growth traits in heifers exposed to testosterone-propionate during early fetal development, 1858

M

Magnesium
Ammoniation and magnesium supplementation of wheat straw diets—Effects on performance and mineral status of beef cows, 945
Effect of dietary supplements of sodium or potassium bicarbonate on short-term macromineral balance in swine, 1079
Effects of potassium on macromineral absorption in sheep fed wheat straw-based diets, 872
Maintenance
Biases in regression when prediction is inverse to causation, 594
Major Histocompatibility Complex
Genetic control of immune responsiveness: A review of its use as a tool for selection for disease resistance, 394
Maternal Effects
Expected responses to index selection for direct and maternal additive effects of gestation length or birth date in beef cattle, 357
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: II. Comparison of additive direct and maternal genetic effects, 414
Genetic trends due to bull selection and differential usage in the Simmental population, 983
Heterosis and breed maternal and transmitted effects in beef cattle. V. Weight, height and condition score of females, 706
Heterosis, breed maternal and breed direct effects in Red Poll and Hereford cattle, 963
Individual heterosis and breed effects for postweaning performance and carcass traits in four breeds of swine, 83
Reproductive rates, birth weight, calving ease and 24-h calf survival in a four-breed diallel among Simmental, Limousin, Polled Hereford and Brahman beef cattle, 65
Variance and covariance estimates for maternally influenced beef growth traits, 728
Maturity
Effects of selection for rapid postweaning gain on maturing patterns of fat depots in mice, 133
Maximum Likelihood
A derivative-free approach for estimating variance components in animal models by restricted maximum likelihood, 1362
Meat
Association of micrometric traits on meat quality, fattening and slaughter traits in the pig, 1412
Effects of rapid chilling and accelerated processing on the physical and sensory characteristics of fresh pork loins, 765
Effects of spray chilling and carcass spacing on beef carcass cooler shrink and grade factors, 165
Fragmentation index as an early postmortem predictor of beef tenderness, 171
Measurement of postmortem changes in pork by high-speed compression hysteresis, 444
Relationships between rate of growth, catheptic enzymes and meat palatability in young bulls, 1448
Meat and Bone Meal
Tryptophan availability of some feedstuffs determined by pig growth assay, 191
Metabolism
Central endocrine regulation of the development of hormone responses in porcine fetal adipose tissue, 745
Enzymes of glucose and fatty acid metabolism of liver, kidney, skeletal muscle, adipose tissue and mammary gland of lactating and non-lactating sheep, 1395
Factors affecting measurements of glucose metabolism and lipolytic rates in porcine adipose tissue slices in vitro, 148
Growth and adipose tissue metabolism in young pigs fed cimaterol with adequate or low dietary protein, 1384
Hormonal control of porcine adipose tissue fatty acid release and cyclic AMP concentration, 1031
Interlobular distribution of hepatic xenobiotic-metabolizing enzyme activities in cattle, goats and sheep, 210
Methane
A proposed mechanism of monensin action in inhibiting ruminal bacterial growth: Effects on

ion flux and protonmotive force, 1519
Performance, methanogenesis and nitrogen metabolism of finishing steers fed monensin and nickel, 887
Methemoglobinemia
The prophylactic effect of corn supplementation on experimental nitrate intoxication in cattle, 1682
Mice
Effects of selection for rapid postweaning gain on maturing patterns of fat depots in mice, 133
Microbial Flora
A proposed mechanism of monensin action in inhibiting ruminal bacterial growth: Effects on ion flux and protonmotive force, 1519
Characterization of in situ nitrogen and fiber digestion and bacterial nitrogen contamination of hay crop forages preserved at different dry matter percentages, 552
Duodenal bacterial and nonbacterial protein supply in steers fed forage and grain diets, 295
Effects of tallow supplementation and protein withdrawal on ruminal fermentation, microbial synthesis and site of digestion, 907
Relative contributions of ruminal bacteria and protozoa to the degradation of protein in vitro, 261
Ruminal microbial development in conventionally or early-weaned calves, 1215
Site of protein digestion in steers fed sorghum grain diets. I. Effect of level of feed intake, 1533
Site of protein digestion in steers fed sorghum grain diets. II. Effect of grain processing methods, 1541
Milk
Composition and yield of milk from beef-type Bos taurus and Bos indicus × Bos taurus dams, 373
Composition of sow milk during lactation, 1458
Effect of level of beef cow milk production on pre- and postweaning calf growth, 1313
Effects of long-term thrice-daily milking on mammary enzyme activity, cell population and milk yield in the goat, 533
Estrone concentration in sow milk during and after parturition, 1086
Production characters of primiparous females of a five-breed diallel, 1612
Minerals
Digestibility, intake and mineral utilization of combinations of grasses and legumes by lambs, 1725
Effect of water restriction and dietary sodium on nutrient metabolism in lambs, 1235
Effects of varying zinc concentrations on quality of alfalfa for lambs, 1735
Molasses
Ammoniation or cane molasses supplementation of low quality forages, 1205
Monensin
A proposed mechanism of monensin action in inhibiting ruminal bacterial growth: Effects on ion flux and protonmotive force, 1519
Effects of monensin on voluntary intake, eating and ruminating behavior and ruminal motility in heifers fed corn silage, 827
Performance, methanogenesis and nitrogen metabolism of finishing steers fed monensin and nickel, 887
Muscles
A statistically standardized muscle cell culture bioassay measuring the effect of swine serum on muscle cell proliferation, 615
Accumulation of newly synthesized myosin heavy chain during thyroxin-induced myofiber type transition, 1574
Association of micrometric traits on meat quality, fattening and slaughter traits in the pig, 1412
Composition of intermediate filament subunit proteins in embryonic, neonatal and postnatal porcine skeletal muscle, 601
Enzymes of glucose and fatty acid metabolism of liver, kidney, skeletal muscle, adipose tissue and mammary gland of lactating and non-lactating sheep, 1395
Effects of maternal undernutrition during early pregnancy on growth, muscle cellularity, fiber type and carcass composition in lambs, 1419
Fatty acid profiles and sensory and carcass traits of tissues from steers and swine fed an elevated monounsaturated fat diet, 1441
Serum proteins as carriers of amino acids to and from the hindlimbs of fed and fasted calves, 586
Stimulation of in vitro muscle cell proliferation by sera from swine injected with porcine growth hormone, 623
The relationship between cell proliferation and phosphatidylinositol metabolism in skeletal muscle cells in culture, 633
Myosin
Accumulation of newly synthesized myosin heavy chain during thyroxin-induced myofiber type transition, 1574
Screening of a bovine genomic library for myosin heavy-chain genes, 607

N

Neonates
Histogenesis of the ovine uterus, 1262
Nickel
Performance, methanogenesis and nitrogen metabolism of finishing steers fed monensin and nickel, 887
Nitrates
The prophylactic effect of corn supplementation on experimental nitrate intoxication in cattle, 1682
Nitrogen
Effect of dietary protein level on nitrogen metabolism in lambs: Studies using ^{15}N-nitrogen, 855
Effect of feeding frequency on forage fiber and nitrogen utilization in sheep, 1170
Norgestrel
Effects of norgestomet on follicular development in postpartum beef cows, 1099
No-Tillage Systems
Lamb performance on extended-season grazing of tyfon, 1275
Nuclear Transplantation
Nuclear transplantation in bovine embryos, 642

Nutrients
A method for chronically quantifying net absorption of nutrients and gut metabolites into hepatic portal vein in conscious swine, 923
Effect of water restriction and dietary sodium on nutrient metabolism in lambs, 1235
Minimum cost nutrient requirements from a growth response function, 312
Nutrition
Compensatory growth in finishing pigs after feed restriction, 752
Effects of maternal undernutrition during early pregnancy on growth, muscle cellularity, fiber type and carcass composition in lambs, 1419
Effects of prepartum energy intake on steroids during late gestation and on cow and calf performance, 1703
Testicular development, daily sperm production and epididymal sperm reserves in 15-mo-old Angus and Hereford bulls: Effects of bull strain plus dietary energy, 254

O

Offal
Poultry offal ensiled with Lactobacillus acidophilus for growing and finishing swine diets, 182
Olfaction
Fostering lambs by odor transfer: The add-on experiment, 1378
Opioids
Effects of estradiol-17β, naloxone and gonadotropin releasing hormone on postpartum secretion of luteinizing hormone in fall-lambing ewes, 1484
Ovaries
Biochemical analysis of bovine follicular fluid: Albumin, total protein, lysosomal enzymes, ions, steroids and ascorbic acid content in relation to follicular size, rank, atresia classification and day of estrous cycle, 1153
Comparison of surface diameters and dissected diameters of bovine ovarian follicles, 226
Influence of varying levels of blood progesterone upon estrous behavior in cattle, 126
Lipogenesis in adipose tissue from ovariectomized and intact heifers immunized against estradiol and(or) implanted with trenbolone acetate, 1428
Ovarian follicular populations and in vitro steroidogenesis on three different days of the bovine estrous cycle, 1710
Ovulation
Effects of plane of nutrition and phenobarbital during the pre-mating period on reproduction in ewes fed differentially during the summer and mated in the fall, 1144
Enhancement of ovulation rate in gilts by increasing dietary energy and administering insulin during follicular growth, 507
Relationship between weaning and secretion of luteinizing hormone, cortisol and transcortin in beef cows, 1498
Oxidation
Absorption, plasma flux and oxidation of L-leucine in heifers at two levels of intake, 420

P

Packaging
Effects of rapid chilling and accelerated processing on the physical and sensory characteristics of fresh pork loins, 765
Parasites
Monoclonal antibody technology in the development of vaccines for livestock parasites, 328
Parasympathomimetics
Effects of slaframine on ruminant digestive function: Liquid turnover rate and fermentation patterns in sheep and cattle, 1241
Parity
Factors affecting reproductive performance in swine, 1340
Particle Size
Corn particle starch digestion, passage and size reduction in beef steers: A dynamic model, 1194
Evaluation of rare-earth markers using an in vitro ruminal fermentation system and effect of processing method on ruminal turnover of sized corn particles, 1835
Influence of thermo-ammoniation on quality of warm-season grass hay for steers, 1821
Parturition
Estrone concentration in sow milk during and after parturition, 1086
Induction of parturition in swine with epostane, a competitive inhibitor of 3β-hydroxysteroid dehydrogenase, 497
Peanuts
Dietary urea influences on digestibility and utilization of diets containing peanut skins by steers, 1
Peptides
Relative contributions of ruminal bacteria and protozoa to the degradation of protein in vitro, 261
Transport and hindlimb exchange of peptide and serum protein amino acids in calves fed soy- or urea-based purified diets, 1852
Performance
Effect of floor area restriction upon performance, behavior and physiology of growing-finishing pigs, 1371
Effect of weight at castration on steer performance in the feedlot, 343
Effect of wheat and high-moisture sorghum grain fed singly and in combination on ruminal fermentation, solid and liquid flow, site and extent of digestion and feeding performance of cattle, 897
Factors affecting reproductive performance in swine, 1340
Heritabilities of predicted performance measures in beef bull tests and their relationships with feedlot efficiency measures, 1323
pH
Associative effects of sorghum silage and sorghum grain diets, 1779
Phenobarbital
Effects of plane of nutrition and phenobarbital during the pre-mating period on reproduction in ewes fed differentially during the summer and mated in the fall, 1144

Phenolic Content
Effects of ammoniation of tall fescue on phenolic composition, feed intake, site and extent of nutrient digestion and ruminal dilution rates of steers, 842
Phloridzin
Hypoglycemia alters pulsatile luteinizing hormone secretion in the postpartum beef cow, 479
Phosphatidylinositols
The relationship between cell proliferation and phosphatidylinositol metabolism in skeletal muscle cells in culture, 633
Pigs
A method for chronically quantifying net absorption of nutrients and gut metabolites into hepatic portal vein in conscious swine, 923
A statistically standardized muscle cell culture bioassay measuring the effect of swine serum on muscle cell proliferation, 615
Amino acid excesses for young pigs: Effects of excess methionine, tryptophan, threonine or leucine, 1664
Apparent digestibility of amino acids, gross energy and starch in corn, sorghum, wheat, barley, oat groats and wheat middlings for growing pigs, 1655
Association of micrometric traits on meat quality, fattening and slaughter traits in the pig, 1412
Central endocrine regulation of the development of hormone responses in porcine fetal adipose tissue, 745
Comparison of induced corpora lutea from prepuberal gilts and spontaneous corpora lutea from mature gilts: In vitro progesterone production, 526
Comparison of induced corpora lutea from prepuberal gilts and spontaneous corpora lutea from mature gilts: Hydroxysteroid dehydrogenase activity, 237
Compensatory growth in finishing pigs after feed restriction, 752
Components of variance and covariance for reproductive traits in swine estimated from Yorkshire field data, 1285
Composition of intermediate filament subunit proteins in embryonic, neonatal and postnatal porcine skeletal muscle, 601
Composition of sow milk during lactation, 1458
Differentiation of adipose tissue and muscle in hypophysectomized pig fetuses, 1255
Effect of body condition and floor material on sow performance, 36
Effect of charcoal-extracted porcine follicular fluid and 17β-estradiol on follicular growth and plasma gonadotropins in gilts fed a progesterone agonist, altrenogest, 816
Effect of dietary electrolyte balance on growth and acid-base status in swine, 457
Effect of dietary supplementation with vitamin C or carbadox on weanling pigs subjected to crowding stress, 1672
Effect of dietary supplements of sodium or potassium bicarbonate on short-term macromineral balance in swine, 1079
Effect of floor area restriction upon performance, behavior and physiology of growing-finishing pigs, 1371
Effect of human chorionic gonadotropin on preovulatory luteinizing hormone surge and ovarian hormone secretion in gilts, 1134
Effect of level of protein and supplemental choline on reproductive performance of gilts fed sorghum diets, 1044
Effect of photoperiod and temperature on prolactin secretion in ovariectomized gilts, 1690
Effect of protein and energy intake by primiparous sows during lactation on sow and litter performance and sow serum thyroxine and urea concentrations, 1060
Effects of adrenalectomy and glucocorticoids on puberty in gilts reared in confinement, 231
Effects of feed and water restriction and receiving diet crude protein on feeder pig performance, 1606
Enhancement of ovulation rate in gilts by increasing dietary energy and administering insulin during follicular growth, 507
Estimates of genetic parameters for sexual and compositional maturity in gilts, 977
Estrone concentration in sow milk during and after parturition, 1086
Estrous and litter traits in gilts altered by altrenogest, flushing and pubertal status, 1117
Factors affecting measurements of glucose metabolism and lipolytic rates in porcine adipose tissue slices in vitro, 148
Factors affecting reproductive performance in swine, 1340
Factors contributing to early embryonic mortality in gilts bred at first estrus, 474
Fatty acid profiles and sensory and carcass traits of tissues from steers and swine fed an elevated monounsaturated fat diet, 1441
Gain, feed efficiency and carcass quality of finishing swine fed raw soybeans, 177
Genetic and phenotypic parameters for pig growth and body composition estimated by intraclass correlation and parent-offspring regression, 1619
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: I. Heterosis, general combining ability and relationship to growth and backfat, 407
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: II. Comparison of additive direct and maternal genetic effects, 414
Glandless cottonseed kernels for starter, grower and finisher swine, 1051
Growth and adipose tissue metabolism in young pigs fed cimaterol with adequate or low dietary protein, 1384
Growth performance for four breeds of swine: Crossbred females and purebred and crossbred boars, 99
Hormonal control of porcine adipose tissue fatty acid release and cyclic AMP concentration, 1031
Hormonal patterns of boars exposed to natural or supplemental lighting during pubertal development, 1110
Individual heterosis and breed effects for postweaning performance and carcass traits in four breeds of swine, 83

Induction of parturition in swine with epostane, a competitive inhibitor of 3β-hydroxysteroid dehydrogenase, 497
Influence of manure gases on puberty in gilts, 1476
Influence of meal frequency on postprandial variations in the production and absorption of volatile fatty acids in the digestive tract of conscious pigs, 448
Metabolic utilization of energy and maintenance requirements in lactating sows, 774
Poultry offal ensiled with Lactobacillus acidophilus for growing and finishing swine diets, 182
Pre-adipocyte proliferation and differentiation in response to hormone supplementation of decapitated fetal pig sera, 735
Stimulation of in vitro muscle cell proliferation by sera from swine injected with porcine growth hormone, 623
Stimulation of pig growth performance by porcine growth hormone: Determination of the dose-response relationship, 433
The effect of feeder space allowance on weaned pig performance, 8
Tryptophan and threonine requirements of young pigs and their effects on serum calcium, phosphorus and zinc concentrations, 1070
Pituitary
Pituitary responsiveness of mares challenged with GnRH at various stages of the transition into the breeding season, 790
Polybrominated Biphenyls
Serum isocitrate dehydrogenase during polybrominated biphenyl toxicosis in dairy cattle, 467
Portal Circulation
A method for chronically quantifying net absorption of nutrients and gut metabolites into hepatic portal vein in conscious swine, 923
Influence of meal frequency on postprandial variations in the production and absorption of volatile fatty acids in the digestive tract of conscious pigs, 448
Postmortem Changes
Measurement of postmortem changes in pork by high-speed compression hysteresis, 444
Postpartum Interval
Effect of the uterus on subnormal luteal function in anestrous beef cows, 1506
Effects of estradiol-17β, naloxone and gonadotropin releasing hormone on postpartum secretion of luteinizing hormone in fall-lambing ewes, 1484
Effects of norgestomet on follicular development in postpartum beef cows, 1099
Endocrinology of the postpartum period in the Pelibuey ewe, 1717
Postweaning Interval
Postweaning weights and gains of cattle raised under range and gain test environments, 969
Potassium
Effect of dietary supplements of sodium or potassium bicarbonate on short-term macromineral balance in swine, 1079
Effects of potassium on macromineral absorption in sheep fed wheat straw-based diets, 872
Poultry
Poultry offal ensiled with Lactobacillus acidophilus for growing and finishing swine diets, 182
Prediction
Biases in regression when prediction is inverse to causation, 594
Life cycle efficiency of beef production: VII. Prediction of cow efficiency ratios for progeny weaned and slaughtered, 50
Processing
Site of protein digestion in steers fed sorghum grain diets. II. Effect of grain processing methods, 1541
Production
Breed cross comparisons of beef cow productivity relative to winter feed inputs, 714
Cow and calf performance and economic considerations of early weaning of fall-born beef calves, 15
Effects of forage system on beef cow-calf productivity, 678
Minimum cost nutrient requirements from a growth response function, 312
Progestogens
Bovine corpus luteum regression and estrous response following treatment with alfaprostol, 1280
Comparison of induced corpora lutea from prepuberal gilts and spontaneous corpora lutea from mature gilts: Hydroxysteroid dehydrogenase activity, 237
Comparison of induced corpora lutea from prepuberal gilts and spontaneous corpora lutea from mature gilts: In vitro progesterone production, 526
Effect of human chorionic gonadotropin on preovulatory luteinizing hormone surge and ovarian hormone secretion in gilts, 1134
Effect of the uterus on subnormal luteal function in anestrous beef cows, 1506
Effects of prepartum energy intake on steroids during late gestation and on cow and calf performance, 1703
Effects of suckling, progestogen-impregnated pessaries or hysterectomy on ovarian function in autumn-lambing postpartum ewes, 216
Estrous and litter traits in gilts altered by altrenogest, flushing and pubertal status, 1117
Factors contributing to early embryonic mortality in gilts bred at first estrus, 474
Follicle stimulating hormone pattern and luteal function in ewes receiving bovine follicular fluid during three stages of the estrous cycle, 1491
Function of ovine corpora lutea after administration of luteinizing hormone-releasing hormone, 648
Hormone secretion and characteristics of estrous cycles after treatment of heifers with human chorionic gonadotropin or prostaglandin $F_{2\alpha}$ during corpus luteum formation, 782
Induction of parturition in swine with epostane, a competitive inhibitor of 3β-hydroxysteroid dehydrogenase, 497
Influence of varying levels of blood progesterone upon estrous behavior in cattle, 126
Passive immunization of cyclic mares against androgen: Gonadotropin and progesterone concentrations and estrous characteristics, 797
Response of postpartum beef cows to exogenous progestogens and gonadotropin releasing hor-

mone, 540
The effect of heat stress on early embryonic development in the beef cow, 1512
Prolactin
A comparative study of ovine placental lactogen and prolactin secretion patterns in genetically dissimilar fetal co-twins, 1696
Effect of photoperiod and temperature on prolactin secretion in ovariectomized gilts, 1690
Prostaglandins
Active immunization of heifers against prostaglandin $F_{2\alpha}$: Potential as a sterilization vaccine, 1090
Bovine corpus luteum regression and estrous response following treatment with alfaprostol, 1280
Effect of prostaglandin $F_{2\alpha}$ administration on early pregnancy in ewes, 1127
Effects of suckling, progestogen-impregnated pessaries or hysterectomy on ovarian function in autumn-lambing postpartum ewes, 216
Protein
Absorption, plasma flux and oxidation of L-leucine in heifers at two levels of intake, 420
Analysis of forage research samples utilizing a combination of wet chemistry and near infrared reflectance spectroscopy, 271
Composition of intermediate filament subunit proteins in embryonic, neonatal and postnatal porcine skeletal muscle, 601
Duodenal bacterial and nonbacterial protein supply in steers fed forage and grain diets, 295
Effect of dietary protein level on nitrogen metabolism in lambs: Studies using ^{15}N-nitrogen, 855
Effect of level of protein and supplemental choline on reproductive performance of gilts fed sorghum diets, 1044
Effects of feed and water restriction and receiving diet crude protein on feeder pig performance, 1606
Effects of plane of nutrition and phenobarbital during the pre-mating period on reproduction in ewes fed differentially during the summer and mated in the fall, 1144
Effects of tallow supplementation and protein withdrawal on ruminal fermentation, microbial synthesis and site of digestion, 907
Influence of supplemental nitrogen source on digestion of nitrogen, dry matter and organic matter and on in vivo rate of ruminal protein degradation, 1801
Metabolic utilization of energy and maintenance requirements in lactating sows, 774
Minimum cost nutrient requirements from a growth response function, 312
Relative contributions of ruminal bacteria and protozoa to the degradation of protein in vitro, 261
Serum proteins as carriers of amino acids to and from the hindlimbs of fed and fasted calves, 586
Simultaneous measures of rates of ruminal digestion and passage of feeds for prediction of ruminal nitrogen and dry matter digestion in lactating dairy cows, 565
Site of protein digestion in steers fed sorghum grain diets. I. Effect of level of feed intake, 1533
Site of protein digestion in steers fed sorghum grain diets. II. Effect of grain processing methods, 1541
Transport and hindlimb exchange of peptide and serum protein amino acids in calves fed soy- or urea-based purified diets, 1852
Transport and hindlimb exchange of plasma and blood-cell amino acids in calves fed soy- or urea-based purified diets, 1842
Puberty
Effects of adrenalectomy and glucocorticoids on puberty in gilts reared in confinement, 231
Estimates of genetic parameters for sexual and compositional maturity in gilts, 977
Hormonal patterns of boars exposed to natural or supplemental lighting during pubertal development, 1110
Influence of biostimulation by mature bulls on occurrence of puberty in beef heifers, 1601
Influence of manure gases on puberty in gilts, 1476
Production characters of primiparous females of a five-breed diallel, 1612
Pyruvate
Gluconeogenesis in isolated lamb hepatocytes, 283

R

Racing Performance
Factors influencing best annual racing time in Finnish horses, 109
Heritabilities of annually summarized race records in trotters, 117
Rare-Earth Markers
Evaluation of rare-earth markers using an in vitro ruminal fermentation system and effect of processing method on ruminal turnover of sized corn particles, 1835
Rats
Comparison of cupric and sulfate ion effects on chronic selenosis in rats, 1467
Poultry offal ensiled with Lactobacillus acidophilus for growing and finishing swine diets, 182
Recycling
Effect of dietary protein level on nitrogen metabolism in lambs: Studies using ^{15}N-nitrogen, 855
Regression Analysis
Biases in regression when prediction is inverse to causation, 594
Genetic and phenotypic parameters for pig growth and body composition estimated by intraclass correlation and parent-offspring regression, 1619
Reproduction
Components of variance and covariance for reproductive traits in swine estimated from Yorkshire field data, 1285
Effect of level of protein and supplemental choline on reproductive performance of gilts fed sorghum diets, 1044
Effects of prepartum energy intake on steroids during late gestation and on cow and calf performance, 1703
Endocrinology of the postpartum period in the Pelibuey ewe, 1717

Follicle culture enhances fertilizability and cleavage of bovine oocytes matured in vitro, 935
Genetic parameters for gestation length, birth date and first breeding date in beef cattle, 348
Heritability estimates for calving date in Simmental cattle, 701
Hormone secretion and characteristics of estrous cycles after treatment of heifers with human chorionic gonadotropin or prostaglandin $F_{2\alpha}$ during corpus luteum formation, 782
Influence of biostimulation by mature bulls on occurrence of puberty in beef heifers, 1601
Production characters of primiparous females of a five-breed diallel, 1612
Relationship of absolute numbers of Sertoli cells to testicular size and spermatogenesis in young beef bulls, 241
Reproductive rates, birth weight, calving ease and 24-h calf survival in a four-breed diallel among Simmental, Limousin, Polled Hereford and Brahman beef cattle, 65
Testicular development, daily sperm production and epididymal sperm reserves in 15-mo-old Angus and Hereford bulls: Effects of bull strain plus dietary energy, 254
The effect of heat stress on early embryonic development in the beef cow, 1512
Rhinitis
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: I. Heterosis, general combining ability and relationship to growth and backfat, 407
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: II. Comparison of additive direct and maternal genetic effects, 414
Rice Straw
Ammoniation or cane molasses supplementation of low quality forages, 1205
Rumen
A proposed mechanism of monensin action in inhibiting ruminal bacterial growth: Effects on ion flux and protonmotive force, 1519
Effect of fats and fatty acid combinations on ruminal fermentation in semi-continuous in vitro cultures, 1526
Effect of feeding frequency on forage fiber and nitrogen utilization in sheep, 1170
Effect of wheat and high-moisture sorghum grain fed singly and in combination on ruminal fermentation, solid and liquid flow, site and extent of digestion and feeding performance of cattle, 897
Effects of monensin on voluntary intake, eating and ruminating behavior and ruminal motility in heifers fed corn silage, 827
Effects of slaframine on ruminant digestive function: Liquid turnover rate and fermentation patterns in sheep and cattle, 1241
Effects of tallow supplementation and protein withdrawal on ruminal fermentation, microbial synthesis and site of digestion, 907
Influence of cottonseed meal supplementation on voluntary intake, ruminal and cecal fermentation, digesta kinetics and serum insulin and growth hormone in mature ewes fed prairie hay, 1178
Influence of decoquinate on ruminal fermentation, diet digestibility and cattle performance, 1227
Interrelationships among voluntary intake, eating and ruminating behavior and ruminal motility of heifers fed corn silage, 835
Predicting intake and digestibility using mathematical models of ruminal function, 1548
Relative contributions of ruminal bacteria and protozoa to the degradation of protein in vitro, 261
Ruminal microbial development in conventionally or early-weaned calves, 1215
Simultaneous measures of rates of ruminal digestion and passage of feeds for prediction of ruminal nitrogen and dry matter digestion in lactating dairy cows, 565

S

Salivary Secretions
Effects of slaframine on ruminant digestive function: Liquid turnover rate and fermentation patterns in sheep and cattle, 1241
Seasons
Factors affecting reproductive performance in swine, 1340
Influences of season and artificial photoperiod on stallions: Testicular size, seminal characteristics and sexual behavior, 517
Pituitary responsiveness of mares challenged with GnRH at various stages of the transition into the breeding season, 790
Seedbed Cultivation
Effects of forage system on beef cow-calf productivity, 678
Selection
A derivative-free approach for estimating variance components in animal models by restricted maximum likelihood, 1362
Effects of using sires selected for yearling weight and crossbreeding with beef and dairy breeds: Birth and weaning traits, 1591
Evaluation of phenotypic and genetic trends in weaning weight in Angus and Hereford populations in Virginia, 1349
Expected responses to index selection for direct and maternal additive effects of gestation length or birth date in beef cattle, 357
Genetic control of immune responsiveness: A review of its use as a tool for selection for disease resistance, 394
Genetic parameters and consequences of selection for growth traits in a beef herd selected for yearling weight, 366
Genetic trends due to bull selection and differential usage in the Simmental population, 983
Selenium
Comparison of cupric and sulfate ion effects on chronic selenosis in rats, 1467
Sexual Differentiation
Endocrine and body growth traits in heifers exposed to testosterone-propionate during early fetal development, 1858
Sheep
A comparative study of ovine placental lactogen and prolactin secretion patterns in genetically

dissimilar fetal co-twins, 1696
Breed and heterosis effects on wool and lamb production of rotationally crossed ewes, 43
Characteristics of lean from culled breeding ewes, 1648
Digestibility and rate of passage by lambs of water-stressed alfalfa, 1813
Digestibility, intake and mineral utilization of combinations of grasses and legumes by lambs, 1725
Effect of dietary protein level on nitrogen metabolism in lambs: Studies using ^{15}N-nitrogen, 855
Effect of prostaglandin $F_{2\alpha}$ administration on early pregnancy in ewes, 1127
Effects of estradiol-17β, naloxone and gonadotropin releasing hormone on postpartum secretion of luteinizing hormone in fall-lambing ewes, 1484
Effects of maternal undernutrition during early pregnancy on growth, muscle cellularity, fiber type and carcass composition in lambs, 1419
Effects of plane of nutrition and phenobarbital during the pre-mating period on reproduction in ewes fed differentially during the summer and mated in the fall, 1144
Effects of potassium on macromineral absorption in sheep fed wheat straw-based diets, 872
Effects of suckling, progestogen-impregnated pessaries or hysterectomy on ovarian function in autumn-lambing postpartum ewes, 216
Effects of varying zinc concentrations on quality of alfalfa for lambs, 1735
Endocrinology of the postpartum period in the Pelibuey ewe, 1717
Enzymes of glucose and fatty acid metabolism of liver, kidney, skeletal muscle, adipose tissue and mammary gland of lactating and non-lactating sheep, 1395
Follicle stimulating hormone pattern and luteal function in ewes receiving bovine follicular fluid during three stages of the estrous cycle, 1491
Fostering lambs by odor transfer: The add-on experiment, 1378
Function of ovine corpora lutea after administration of luteinizing hormone-releasing hormone, 648
Gluconeogenesis in isolated lamb hepatocytes, 283
Histogenesis of the ovine uterus, 1262
Inheritance of active and acquired immunity traits in sheep, 1302
Interlobular distribution of hepatic xenobiotic-metabolizing enzyme activities in cattle, goats and sheep, 210
Lamb performance on extended-season grazing of tyfon, 1275
Plasma somatotropin response to exogenous growth hormone releasing factor in lambs, 1002
Voluntary intake, gain, digestibility, rate of passage and gastrointestinal tract fill in tropical and temperate breeds of sheep, 880
Whole soybeans for market lambs, 1249
Shrinkage
Effects of feed and water restriction and receiving diet crude protein on feeder pig performance, 1606
Effects of spray chilling and carcass spacing on beef carcass cooler shrink and grade factors, 165
Silage
Poultry offal ensiled with Lactobacillus acidophilus for growing and finishing swine diets, 182
Simmental
Effect of region of the United States and age of dam on birth weight and 205-d weight of Simmental calves, 955
Sire Evaluation
Sire × environment interactions and genetic correlations of sire progeny performance across regions in dam-adjusted field data, 77
Sodium Bicarbonate
Effect of dietary electrolyte balance on growth and acid-base status in swine, 457
Effect of dietary supplements of sodium or potassium bicarbonate on short-term macromineral balance in swine, 1079
Sodium Chloride
Effect of water restriction and dietary sodium on nutrient metabolism in lambs, 1235
Somatotropin
Concentrations of hormones in plasma from cattle with different growth potentials, 426
Determination of the temporal relationship between porcine growth hormone, serum IGF-1 and cortisol concentrations in pigs, 1019
Influence of cottonseed meal supplementation on voluntary intake, ruminal and cecal fermentation, digesta kinetics and serum insulin and growth hormone in mature ewes fed prairie hay, 1178
Plasma somatotropin response to exogenous growth hormone releasing factor in lambs, 1002
Pre-adipocyte proliferation and differentiation in response to hormone supplementation of decapitated fetal pig sera, 735
Stimulation of in vitro muscle cell proliferation by sera from swine injected with porcine growth hormone, 623
Stimulation of pig growth performance by porcine growth hormone: Determination of the dose-response relationship, 433
Sorbitol Dehydrogenase
Changes in hepatic function tests to induced toxicity in the bovine liver, 201
Sorghum
Apparent digestibility of amino acids, gross energy and starch in corn, sorghum, wheat, barley, oat groats and wheat middlings for growing pigs, 1655
Associative effects of sorghum silage and sorghum grain diets, 1779
Effect of level of protein and supplemental choline on reproductive performance of gilts fed sorghum diets, 1044
Effect of wheat and high-moisture sorghum grain fed singly and in combination on ruminal fermentation, solid and liquid flow, site and extent of digestion and feeding performance of cattle, 897
Site of protein digestion in steers fed sorghum grain diets. I. Effect of level of feed intake,

1533
Site of protein digestion in steers fed sorghum grain diets. II. Effect of grain processing methods, 1541
Tryptophan availability of some feedstuffs determined by pig growth assay, 191
Soybeans
Gain, feed efficiency and carcass quality of finishing swine fed raw soybeans, 177
Influence of supplemental nitrogen source on digestion of nitrogen, dry matter and organic matter and on in vivo rate of ruminal protein degradation, 1801
Transport and hindlimb exchange of peptide and serum protein amino acids in calves fed soy- or urea-based purified diets, 1852
Transport and hindlimb exchange of plasma and blood-cell amino acids in calves fed soy- or urea-based purified diets, 1842
Tryptophan availability of some feedstuffs determined by pig growth assay, 191
Whole soybeans for market lambs, 1249
Sperm
Influences of season and artificial photoperiod on stallions: Testicular size, seminal characteristics and sexual behavior, 517
Relationship of absolute numbers of Sertoli cells to testicular size and spermatogenesis in young beef bulls, 241
Starch
Corn particle starch digestion, passage and size reduction in beef steers: A dynamic model, 1194
Effects of rolling on the composition and utilization by growing steers of whole-plant corn silage, 303
Sterilization
Active immunization of heifers against prostaglandin $F_{2\alpha}$: Potential as a sterilization vaccine, 1090
Stocking Rate
Effect of dietary supplementation with vitamin C or carbadox on weanling pigs subjected to crowding stress, 1672
Effect of floor area restriction upon performance, behavior and physiology of growing-finishing pigs, 1371
Forage intake of alpacas grazing Andean rangeland in Peru, 868
Influence of calving season and stocking rate on beef cow-calf productivity, 687
The effect of feeder space allowance on weaned pig performance, 8
Storage Life
Effects of rapid chilling and accelerated processing on the physical and sensory characteristics of fresh pork loins, 765
Stress
Effect of dietary supplementation with vitamin C or carbadox on weanling pigs subjected to crowding stress, 1672
Effect of floor area restriction upon performance, behavior and physiology of growing-finishing pigs, 1371
Postweaning weights and gains of cattle raised under range and gain test environments, 969
The effect of feeder space allowance on weaned pig performance, 8
Suckling
Effects of suckling, progestogen-impregnated pessaries or hysterectomy on ovarian function in autumn-lambing postpartum ewes, 216
Hypoglycemia alters pulsatile luteinizing hormone secretion in the postpartum beef cow, 479
Relationship between weaning and secretion of luteinizing hormone, cortisol and transcortin in beef cows, 1498
Sulfates
Comparison of cupric and sulfate ion effects on chronic selenosis in rats, 1467
Sunflower Meal
Tryptophan and threonine requirements of young pigs and their effects on serum calcium, phosphorus and zinc concentrations, 1070
Synchronization
Bovine corpus luteum regression and estrous response following treatment with alfaprostol, 1280
Estrous and litter traits in gilts altered by altrenogest, flushing and pubertal status, 1117

T

Tallow
Effects of tallow supplementation and protein withdrawal on ruminal fermentation, microbial synthesis and site of digestion, 907
Tannins
Dietary urea influences on digestibility and utilization of diets containing peanut skins by steers, 1
Testes
Blood and serum components and organ weights in steers, bulls and zeranol-implanted bulls, 489
Influences of season and artificial photoperiod on stallions: Testicular size, seminal characteristics and sexual behavior, 517
Relationship of absolute numbers of Sertoli cells to testicular size and spermatogenesis in young beef bulls, 241
Testicular development, daily sperm production and epididymal sperm reserves in 15-mo-old Angus and Hereford bulls: Effects of bull strain plus dietary energy, 254
Thyroid Glands
Blood and serum components and organ weights in steers, bulls and zeranol-implanted bulls, 489
Thyroid Hormones
Accumulation of newly synthesized myosin heavy chain during thyroxin-induced myofiber type transition, 1574
Concentrations of hormones in plasma from cattle with different growth potentials, 426
Effect of protein and energy intake by primiparous sows during lactation on sow and litter performance and sow serum thyroxine and urea concentrations, 1060
Pre-adipocyte proliferation and differentiation in response to hormone supplementation of decapitated fetal pig sera, 735
The effect of heat stress on early embryonic development in the beef cow, 1512

Time Series
Cyclic variation in cattle feed intake data: Characterization and implications for experimental design, 1638
Toxins
Changes in hepatic function tests to induced toxicity in the bovine liver, 201
Interlobular distribution of hepatic xenobiotic-metabolizing enzyme activities in cattle, goats and sheep, 210
The prophylactic effect of corn supplementation on experimental nitrate intoxication in cattle, 1682
Transit Time
Corn particle starch digestion, passage and size reduction in beef steers: A dynamic model, 1194
Effects of feed and water restriction and receiving diet crude protein on feeder pig performance, 1606
Influence of thermo-ammoniation on quality of warm-season grass hay for steers, 1821
Predicting intake and digestibility using mathematical models of ruminal function, 1548
Voluntary intake, gain, digestibility, rate of passage and gastrointestinal tract fill in tropical and temperate breeds of sheep, 880
Trenbolone
Lipogenesis in adipose tissue from ovariectomized and intact heifers immunized against estradiol and(or) implanted with trenbolone acetate, 1428
Turnips
Ensiling characteristics and digestibility of combinations of turnips and wheat straw, 1790
Twins
A comparative study of ovine placental lactogen and prolactin secretion patterns in genetically dissimilar fetal co-twins, 1696

U

Urea
Ammoniation or cane molasses supplementation of low quality forages, 1205
Dietary urea influences on digestibility and utilization of diets containing peanut skins by steers, 1
Effect of protein and energy intake by primiparous sows during lactation on sow and litter performance and sow serum thyroxine and urea concentrations, 1060
Transport and hindlimb exchange of peptide and serum protein amino acids in calves fed soy- or urea-based purified diets, 1852
Transport and hindlimb exchange of plasma and blood-cell amino acids in calves fed soy- or urea-based purified diets, 1842
Validation of urea dilution to estimate in vivo body composition in cattle, 1024
Urease
Performance, methanogenesis and nitrogen metabolism of finishing steers fed monensin and nickel, 887
Uridine
Deficiency of uridine monophosphate synthase in Holstein cattle: Inheritance and body measurements, 695
Uterus
Effect of the uterus on subnormal luteal function in anestrous beef cows, 1506
Histogenesis of the ovine uterus, 1262

V

Vaccines
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: I. Heterosis, general combining ability and relationship to growth and backfat, 407
Genetic control of immune response to pseudorabies and atrophic rhinitis vaccines: II. Comparison of additive direct and maternal genetic effects, 414
Monoclonal antibody technology in the development of vaccines for livestock parasites, 328
Variance Components
A derivative-free approach for estimating variance components in animal models by restricted maximum likelihood, 1362
Components of variance and covariance for reproductive traits in swine estimated from Yorkshire field data, 1285
Heritabilities of annually summarized race records in trotters, 117
Variance and covariance estimates for maternally influenced beef growth traits, 728
Vitamins
Effect of dietary supplementation with vitamin C or carbadox on weanling pigs subjected to crowding stress, 1672
Effect of level of protein and supplemental choline on reproductive performance of gilts fed sorghum diets, 1044

W

Water Deprivation
Effect of water restriction and dietary sodium on nutrient metabolism in lambs, 1235
Effects of feed and water restriction and receiving diet crude protein on feeder pig performance, 1606
Weaning
Cow and calf performance and economic considerations of early weaning of fall-born beef calves, 15
Effect of the uterus on subnormal luteal function in anestrous beef cows, 1506
Ruminal microbial development in conventionally or early-weaned calves, 1215
Weight
Effects of age of dam on weight traits in the Simmental population, 992
Efficacy of actaplanin fed on a twice-weekly basis to grazing stocker heifers, 578
Evaluation of phenotypic and genetic trends in weaning weight in Angus and Hereford populations in Virginia, 1349
Heterosis and breed maternal and transmitted effects in beef cattle. V. Weight, height and condition score of females, 706

Wheat
Ammoniation and magnesium supplementation of wheat straw diets—Effects on performance and mineral status of beef cows, 945
Apparent digestibility of amino acids, gross energy and starch in corn, sorghum, wheat, barley, oat groats and wheat middlings for growing pigs, 1655
Effect of wheat and high-moisture sorghum grain fed singly and in combination on ruminal fermentation, solid and liquid flow, site and extent of digestion and feeding performance of cattle, 897
Effects of potassium on macromineral absorption in sheep fed wheat straw-based diets, 872
Ensiling characteristics and digestibility of combinations of turnips and wheat straw, 1790
Treatment of wheat straw with alkaline solutions prepared from wood ashes to improve fiber utilization by ruminants, 669
Wood Ash
Treatment of wheat straw with alkaline solutions prepared from wood ashes to improve fiber utilization by ruminants, 669

Z

Zeranol
Blood and serum components and organ weights in steers, bulls and zeranol-implanted bulls, 489
Zinc
Effects of varying zinc concentrations on quality of alfalfa for lambs, 1735